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THE
JOURNAL
OF
THE ASIATIC SOCIETY
OF
BENGAL.

VOL. VI.

THE
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OF
THE ASIATIC SOCIETY
OF
BENGAL.

EDITED BY

JAMES PRINSEP, F. R. S.

SECRETARY OF THE ASIATIC SOCIETY OF BENGAL; HON. MEM. OF THE AS. SOC.
OF PARIS; COR. MEM. OF THE ZOOLOGICAL SOC. OF LONDON, AND OF THE
ROYAL SOCIETIES OF MARSEILLES AND CAEN; OF THE ACADEMY
OF NATURAL SCIENCES OF PHILADELPHIA; OF THE
PHILOSOPHICAL SOCIETY OF GENEVA; OF
THE ALBANY INSTITUTE, &c.

VOL. VI.

JANUARY TO DECEMBER,
1837.

“ It will flourish, if naturalists, chemists, antiquaries, philologers, and men of science, in different parts of *Asia*, will commit their observations to writing, and send them to the Asiatic Society at Calcutta; it will languish, if such communications shall be long intermitted; and will die away, if they shall entirely cease.”

SIR WM. JONES.

Calcutta :

PRINTED AT THE BAPTIST MISSION PRESS CIRCULAR ROAD.

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VOL. VI.—PART I.

JANUARY TO JUNE,
1837.

“ It will flourish, if naturalists, chemists, antiquaries, philologers, and men of science, in different parts of *Asia*, will commit their observations to writing, and send them to the Asiatic Society at Calcutta; it will languish, if such communications shall be long intermitted; and will die away, if they shall entirely cease.”

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PREFACE.

WE have the pleasure of closing this sixth volume of our Journal with an unexpected announcement:—the last steam packet has brought out instructions from the Honorable Court of Directors to the Government of India to “subscribe in their name for FORTY copies of the Journal of the Asiatic Society from the commencement of its publication !” We forbear to comment upon an act of liberality by which we shall personally be such a gainer, but which we have neither directly nor indirectly solicited. We can easily imagine to whose friendly influence we are indebted for it, and we hope he will accept our acknowledgments. Our principal difficulty will be how to meet the wishes of the court ; for of our early volumes not a volume is now to be procured ! We must seriously consider the expediency of a reprint, for we have even heard it whispered that an American edition was in contemplation, and such a thing cannot be deemed impossible when we find the Philadelphians undertaking to rival us of Calcutta in printing (and that without government support) a Cochinchinese dictionary* !

Of local support we have lost nothing by the measure we reluctantly adopted at the beginning of the year, of raising the price of the journal from one to one and a half rupee per number. Our list is fuller than ever, and our balance sheet of a much more promising aspect.

* M. P. ST. DUPONCEAU thus writes to M. JACQUET of Paris : “ J’ai maintenant le plaisir de vous informer que la Société philosophique Américaine vient d’ordonner l’impression à ses frais des deux vocabulaires donnés à Mr. WHITE par le R. de MORRONE, ils vont être publiés dans un volume des mémoires de son comité d’histoire et de littérature, étant trop volumineux pour faire partie de ses Transactions philosophiques.

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By collections this year, ..	3,455	2	8
By distribution to Mem- bers of the As. Society, }	1,293	0	0
By shop sales,	280	13	6
By sales in England, ..	415	6	0
By balance due,	2,488	10	6
	7,933	0	8
Collections due by Asiatic Soc. and subs. in the three Presidencies, }	7,139	7	5

The deficiency, supposing all to be recoverable, is 1,349 13 1, or almost precisely what it was last year; so that our present price exactly pays the expenses of publication.

The bulk of the volume has gone increasing at the usual rate, and instead of eight hundred pages, we have now risen to eleven hundred, with sixty plates; too much to be conveniently bound up in one volume. We have therefore provided separate title pages to enable those, who so prefer, to divide the annual volume into two parts with an index, common to both, at the conclusion of the second part.

The prominent subject of public discussion (to imitate the order of preceding prefaces) as far as the Asiatic Society is concerned, has been THE MUSEUM,—the memorial to the local government—now under reference to the Court of Directors,—suggesting that the Society's collection of antiquities and natural history should form the nucleus of an extensive national establishment, in the present day almost “an essential engine of education, instructive alike to the uninformed, who admires the wonders of nature through the eye alone, and to the refined student who seeks in these repositories what it would be quite out of his power to procure with his own means.” It is to be hoped that this appeal to the court will not share the fate of the oriental publication memorial of 1835, which is still unacknowledged; but that we shall soon have an answer embracing the united objects of the Society's solicitude, and enabling her to advance boldly in her schemes to secure for herself, and for the British name the glory of placing ‘India physical, moral, and historical,’ upon the records of literature. What could be adduced as a more convincing ‘argumentum’ (*ad ignorantiam* dare we say?) than the fact that at this moment a French gen-

tleman of fortune well grounded in Sanskrit and other oriental studies at Paris, is come to Calcutta, 'about to retrace the steps of the French naturalists DUVAUCEL and JACQUEMONT in the interest of the antiquarian, as they travelled in that of the physical sciences.' He contemplates exploring *Gaur, Patiliputra, Magadha, Mithila, Kási, Ayudhya, Nipál, Kemaon, the Panjáb Affghanistán, Tibet*; then the *Jain* provinces, as they may be called, of *Márwár* and *Málwá*, and finally the cave antiquities of Western India*.

We wish M. THEROULDE every success, we proffer him every aid; yet we do so not without a blush that any thing should be left for a foreigner to explore! India, however, is large enough for us all to run over without jostling, and we cannot allow that inactivity is at the present moment a reproach against our Society or our governors. We have expeditions in *Cashmir, Sindé, Bhotán, Ava, Maulmain*, all well provided with scientific adjuncts, and contributing to our maps, our cabinets, and our commerce. Our Societies were never more vigorous. The Agricultural of Calcutta is become exceedingly active. The Geographical of Bombay has opened the field with an interesting volume and a journal of proceedings; and in science we have to boast of the brilliant progress of experiment and magnetic discovery due to one whom we should be happy at having enlisted among our own members. With his colleagues of the Medical College,

* We cannot omit to notice here another laudable demonstration of the greater honor that awaits literary merit at Paris than in London—making full allowance for the proverbial truth that a prophet must seek honor out of his own country. We have just learnt that the French Government has ordered a gold medal to be struck for, and the decoration of the Legion of Honour to be bestowed on Mr. B. H. HODGSON, in return for the valuable donation of Sanskrit manuscripts presented by him to the Asiatic Society of Paris,—and in token of their appreciation of the great services he has rendered to oriental literature. Neither in this case is the reward blindly given, nor the present disregarded; for we know that the Sanskrit scholars of Paris have already dipped profoundly into the contents of the Nipalese Buddhist volumes, and in a short time we may expect a full analysis of them. As a comment on this announcement we may add that similar donations more extensive and more valuable were long since presented by the same party to the Royal Asiatic Society and to the College of Fort William, and that (with exception of the Tibetan portion so well analysed by M. CSOMA) they remain as yet sealed books.

Professor O'SHAUGHNESSY has drawn off to their own valuable publication, the subjects of chemical and physical interest to which we should otherwise have felt ourselves blameable in not offering a conspicuous place. While far different occupations have prevented our passing in review the very promising discoveries in this novel and enticing science, to which their public exhibition has now familiarized the society of Calcutta, the sight of models of magnetic motors and explosive engines worked by gas and spark, both generated by galvanism alone, leads us to suggest that mechanics and the arts should have been included among the proper objects of our projected national museum. An Adelaide gallery would do more to improve the native mind for invention than all the English printed works we would place before them.

But we are as usual wandering from the legitimate objects of a preface. Our own attention has been principally taken up this last year with Inscriptions. Without the knowledge necessary to read and criticise them thoroughly, we have nevertheless made a fortunate acquisition in palæography which has served as the key to a large series of ancient writings hitherto concealed from our knowledge. We cannot consent to quit the pursuit until we shall have satiated our curiosity by a scrutiny of all these records—records as Dr. MILL says, “which are all but certainly established to belong to and to illustrate a most classical and important part of the history of this country.” In our hasty and undigested mode of publication, we are doubtless open to continual corrections and change of views: as a talented and amusing satire on our present predilection for old stones and old coins, in the Meerut Magazine describes it,—“if not satisfied with one account our readers have only to wait for the next journal to find it discarded and another adopted, as in the case of the Bactro-pehlevi alphabet.”

The learned M. E. BURNOUF in a most interesting article inserted in the *Journal des Savans* for June,* says, alluding to the Burmese inscription at *Gaya* published first in the journal, and

* On the grand work of the Chinese Buddhist traveller FOE KOUE KI, lately published at the expense of the French Government, through the labour of three successive editors MM. REMUSAT, KLAPROTH and LANDRESSE. Alas! when shall we in India have an opportunity of seeing these works at any tolerable period after their publication?—Ed.

afterwards more completely commented upon by Colonel BURNES,—“il faut le dire à l'honneur des membres de la Société Asiatique du Bengale, le zèle qui les anime pour l'étude des antiquités de l'Inde est si soutenu et si heureusement secondé par la plus belle position dans laquelle une réunion de savants ne soit jamais trouvée, que les monuments et les textes qu'ils mettent chaque jour en lumière se succèdent avec une rapidité que la critique peut à peine suivre.” While they are taken up with an object once published, we are republishing or revising or adding more matured illustration to it. Some may call this system an inconvenient waste of space and tax on readers, who are entitled to have their repast served up in the most complete style at once, and should not be tantalized with fresh yet immature morceaux from month to month. We, however, think the plan adopted is most suitable to an ephemeral journal, which collects materials and builds up the best structure for immediate accommodation, although it may be soon destined to be knocked down again and replaced by a more polished and classical edifice :—*diruit ædificat ; mutat quadrata rotundis*,—may still be said of our journal, without imputing capricious motives to our habit of demolition. We build not fanciful theories, but rather collect good stones for others to fashion, and unless we advertize them from the first, with some hint of their applicability, how should architects be invited to inspect and convert them to the “benefit and pleasure of mankind?”—*hitasukhāya manusānam*,—as the stone pillars at *Delhi* and *Allahabad* quaintly express the object of their erection.

Connected with the subject of these remarks we would fain in this place give insertion (and we will do so hereafter) to a valuable series of criticisms on the matter of our last volume contained in M. JACQUET'S correspondence. It is just what we most desire. With the aid of an index, such additional information and correction is as good as if incorporated with the text, to the reader who in future days wishes to ferret out all that has been done on a particular subject ; and we would have all our contributors and readers bear in mind that our journal, though it has long changed its title, does not pretend to have changed its original character of being a mere collection of “Gleanings.”

Calcutta, 1st January, 1838.

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CONTENTS.

No. 61.—JANUARY.

Page

I.—Restoration and Translation of the Inscription on the Bhitári Lát, with critical and historical remarks. By the Rev. W. H. Mill, D. D., Principal of Bishop's College, Vice-President, &c. &c.	1
II.—Alphabets of the Tai language. By the Rev. N. Brown, Missionary in Assam,	17
III.—Remarks on the Silkworms and Silks of Assam. By Mr. Thomas Hugon, Sub-Asst. Nowgong,	21
IV.—On the indigenous Silkworms of India. By T. W. Helfer, M. D. Member of the Medical Faculties at the Universities in Prague and Pavia, Member of the Entom. Society in Paris, &c.	38
V.—Concerning certain interesting Phenomena manifested in individuals born blind, and in those having little or no recollection of that sense, on their being restored to sight at various periods of life. By F. H. Brett, Esq. Med. Service,	47
VI.—Memorandum of the progress of sinking a Well in the bunds of Chandpur, near the foot of the Hills. By Mr. William Dawe, Conductor, Delhi Canal Department,	52
VII.—The History of Labong from the Native Records consulted by Dr. D. Richardson, forming an Appendix to his journals published in the preceding volume,	55
VIII.—Suggestions on the Sites of Sangala and the Altars of Alexander, being an extract from Notes of a Journey from Lahore to Karychee, made in 1830. By C. Masson,	57
IX.—Chinese Account of India. Translated from the Wan-hêen-t'hung-kaou, or 'Deep Researches into Ancient Monuments;' by Ma-twanlin; book 338, fol. 14,	61
X.—Proceedings of the Asiatic Society,	77
XI.—Meteorological Register,	80

No. 62.—FEBRUARY.

I.—Singular narrative of the Armenian king Arsaces and his contemporary Sapor, king of Persia; extracted from the Armenian chronicles. By Johannes Avdall, Esq. M. A. S.	81
II.—Translation of an Inscription on a stone in the Asiatic Society's Museum, marked No. 2. By Captain G. T. Marshall, Examiner in the College of Fort William,	88
III.—On the explanation of the Indo-Scythic legends of the Bactrian Coins, through the medium of the Celtic. By Dr. J. Swiney,	93
IV.—On three new Genera or sub-Genera of long-legged Thrushes, with descriptions of their species. By B. H. Hodgson, Esq.	101
V.—Description of three new species of Woodpecker. By B. H. Hodgson, Esq.	104
VI.—Indication of a new Genus of Incessorial Birds. By B. H. Hodgson, Esq.	110
VII.—Nest of the Bengal Vulture, (<i>Vultur Bengalensis</i> ;) with observations on the power of scent ascribed to the Vulture tribe. By Lieut. J. Hutton,	112

VIII.—Notes taken at the post-mortem examination of a Musk Deer. By A. Campbell, Esq., Nipal Residency, June 24, 1834,	118
IX.—Some account of the Wars between Burmah and China, together with the journals and routes of three different Embassies sent to Peking by the king of Ava; taken from Burmese documents. By Lieutenant-Colonel H. Burney, Resident in Ava,	121
X.—Notice on <i>Balantium</i> , a genus of the Pteropodous Mollusca; with the characters of a new species inhabiting the Southern Indian Ocean. By W. H. Benson, Esq. B. C. S.	150
XI.—Additional fragments of the <i>Sivatherium</i> ,	152
XII.—Note on the Hot spring of Lohand Khad. By Capt. C. M. Wade, ..	153
XIII.—Proceedings of the Asiatic Society,	154
XIV.—Meteorological Register,	160

No. 63.—MARCH.

I.—Remarks on M. Schlegel's objections to the restored editions of the <i>Alif Leilah</i> , or <i>Arabian Nights' Entertainments</i> . By Henry Torrens, Esq. B. A. and of the Inner Temple, B. C. S.	161
II.—Journal of Captain C. M. Wade's voyage from Lodiāna to Mithankot by the river Satlaj, on his Mission to Lahór and Baháwalpur in 1832-33. By Lieut. F. Mackeson, 14th Regt. N. I.	169
III.—Facsimiles of Ancient Inscriptions,	218
IV.—Note on a Specimen of the <i>Bos Gaurus</i> . By Dr. George Evans, Curator of the Medical College,	223
V.—Memorandum on the Gaur and Gayal. By Assistant Surgeon J. T. Pearson, Cur. Mus. Asiatic Society,	225
VI.—On a new Genus of the <i>Sylviadæ</i> , with description of three new Species. By B. H. Hodgson, Esq. Resident in Nipal,	230
VII.—Note on the occurrence of Fossil Bones in the Sewalik Range, eastward of Hardwar. By H. Falconer, M. D., Superintendent Botanical Garden, Sháranpur,	233
VIII.—Report progress of the Boring Experiment in Fort William. By Major T. M. Taylor, 5th Cav.	234
IX.—Proceedings of the Asiatic Society,	233
X.—Meteorological Register,	245

No. 64.—APRIL.

I.—Abstract of the Journal of a Route travelled by Capt. S. F. Hannay, of the 40th Regiment Native Infantry, from the Capital of Ava to the Amber Mines of the Hákong valley on the South-east frontier of Assam. By Capt. R. Boileau Pemberton, 44th Regt. N. I.	245
II.—Facsimiles of Ancient Inscriptions. By Jas. Prinsep, Sec. &c.	273
III.—Specimens of Hindu Coins descended from the Parthian type, and of the Ancient Coins of Ceylon. By James Prinsep, Sec. As. Soc.	283
IV.—On the Revolution of the Seasons, (continued from Vol. IV. p. 257.) By the Rev. R. Everest,	303
V.—On the Climate of Darjiling,	308
VI.—Note on the Genera <i>Oxygyrus</i> and <i>Bellerophon</i> . By W. H. Benson, Esq. B. C. S.	316
VII.—Proceedings of the Asiatic Society,	317
VIII.—Meteorological Register,	324

	No. 65.—MAY.	Page
I.—Journal of a visit to the Mishmee hills in Assam. By Wm Griffith, M. D.		
Madras Medical Establishment,	325	
II.—Corrected Estimate of the risk of life to Civil Servants of the Bengal Presidency. By H. T. Prinsep, Esq. Sec. to Govt. &c. ..	341	
III.—A Grammar of the Sindhi language, dedicated to the Right Honorable Sir Robert Grant, Governor of Bombay. By W. H. Wathen, Esq. ..	347	
IV.—On additional fossil species of the order Quadrumana from the Sewalik Hills. By H. Falconer, M. D. and Captain P. T. Cautley, ..	354	
V.—On some new Genera of Raptores, with remarks on the old genera. By B. H. Hodgson, Esq.	361	
VI.—Observations of the Magnetic Dip and Intensity at Madras. By T. G. Taylor, Esq. H. C. Astronomer,	374	
VII.—The Legends of the Saurashtra group of Coins deciphered. By James Prinsep, Sec. As. Soc.	377	
VII.—On the Properties ascribed in Native medical works to the Acacia Arabica. By Lewis Da Costa, Esq.	392	
IX.—Proceedings of the Asiatic Society,	397	
X.—Meteorological Register,	404	

No. 66.—JUNE.

I.—Some account of the Wars between Burmah and China, together with the journals and routes of three different Embassies sent to Peking by the king of Ava: taken from Burmese documents. By Lieutenant-Colonel H. Burney, Resident in Ava,	405
II.—Note on the Facsimiles of Inscriptions from Sanchi near Bhilsa, taken for the Society by Captain Ed. Smith, Engineers; and on the drawings of the Buddhist monument presented by Captain W. Murray, at the meeting of the 7th June. By James Prinsep, Sec. As. Soc.	451
III.—Notice of a Colossal Alto-Relievo, known by the name of Mata Koonr situated near Kussia Tannah, in Pergunnah Sidowa, Eastern Division of Gorakhpur District. By D. Liston, Esq.	477
IV.—Translation of one of the Granthas, or sacred books, of the Dadupanthi Sect. By Lieut. G. R. Siddons, 1st Light Cav., Second in command, 3rd Local Horse, Neemuch,	480
V.—Notice of new Sites of Fossil deposits in the Nerbudda Valley. By Dr. G. G. Spilsbury. Pl. XXX.	487
VI.—New species of Scolopacidæ, Indian Snipes,	489
VII.—Proceedings of the Asiatic Society,	490
VIII.—Meteorological Register,	500

No. 67.—JULY.

I.—An Examination of the Pali Buddhistical Annals. By the Hon'ble George Turnour, Esq. of the Ceylon Civil Service,	501
II.—On the "Indian Boa," "Python Tigris." By Lieut. T. Hutton,	528
III.—Notice of a skull (fragment) of a gigantic fossil Batrachian. By Dr. T. Cantor,	538
IV.—Some account of the Wars between Burmah and China, together with the journals and routes of three different Embassies sent to Peking by the King of Ava: taken from Burmese documents. By Lieutenant-Colonel H. Burney, Resident in Ava,	542
V.—On a new genus of the Plantigrades. By B. H. Hodgson, Esq.	560

	<i>Page</i>
VI.—Interpretation of the most ancient of the inscriptions on the pillar called the lát of Feroz Sháh, near Delhi, and of the Allahabad, Raddia and Mat-tiah pillar, or lát, inscriptions which agree therewith. By James Prinsep, Sec. As. Soc. &c.	566
VII.—Abstract of a Meteorological Register kept at the Cathmandu Residency for 1837. By A. Campbell, Esq. M. D. Nipal Resideucy,	610
VIII.—Proceedings of the Asiatic Society,	612
IX.—Miscellaneous :	
1.—Proportion of rain for different lunar periods at Kandy, Island of Ceylon,	618
2.—Memorandum of the fall of the Barometer at Macao during the severe Hurricane, on the 5th and 6th August, 1835,	619
3.—Award of medals by the Geological Society of London,	<i>ib.</i>
X.—Meteorological Register,	620

No. 68.—AUGUST.

I.—History of the Gurba Mundala Rájas. By Captain W. H. Sleeman, Commissioner for the suppression of Thuggee in the Nerbudda provinces,	621
II.—Account of the Ruins and Site of old Mandavi in Raepur, and legend of Vikramáditya's Son in Cutch. By Lieut. W. Postans, Bombay Engineers,	648
III.—Catalogue of Geological Specimens from Kemaon presented to the Asiatic Society. By Dr. J. McClelland,	653
IV.—Facsimiles of Ancient Inscriptions, lithographed by James Prinsep, Sec. As. Soc. &c.	663
V.—Note on the Primary language of the Buddhist writings. By B. H. Hodgson, Esq. Resident in Nipal,	682
VI.—Geometric Tortoises, "Testudo Geometrica." By Lieut. T. Hutton, 37th Native Infantry,	689
VII.—Barometrical elevations taken on a journey from Katmandhu to Gosainsthán, a place of pilgrimage in the mountains of Nipal, by Chhedí Lohar, a smith in the employ of Captain Robinson, late commanding the Escort of the Resident in Nipal,	696
VIII.—Meteorological Register kept at Darjiling for the months of April, May, June, and July, 1837. By Dr. H. Chapman,	700
IX.—Proceedings of the Asiatic Society,	704
X.—Tribute of the Pandits to the Rev. Dr. MILL,	710
XI.—Meteorological Register,	712

No. 69.—SEPTEMBER.

I.—An examination of the Páli Buddhistical Aunals, No. 2. By the Hon'ble George Turnour, Esq., Ceylon Civil Service,	713
II.—Note on the Geography of Cochin China, by the Right Rev. Jean Louis, Bishop of Isauropolis, Vicar Apostolic of Cochin China, Hon. Mem. As. Soc.	737
III.—On the Bibos, Gauri Gau or Gauriká Gau of the Indian forests. By B. H. Hodgson, Esq. Resident in Nepal,	745
IV.—Extracts translated from the Granthas or sacred books of the Dadupanthí Sect. By Lieutenant G. R. Siddons, 1st Light Cavalry, Second in command, 3rd Local Horse, Neemuch,	750
V.—History of the Rájas of Orissa, from the reign of Rája Yudhistira, translated from the Vansávali. By the late Andrew Stirling, Esq. C. S.	756

Page

VI.—Some account of the valley of Kashmír, Ghazni, and Kábul; in a letter from G. J. Vigne, Esq. dated Bunderpore, on the Wuler lake, Kashmír, June 16, 1837,	766
VII.—Account of an Inscription found by Mr. H. S. Boulderson, in the Neighbourhood of Bareilly. By James Prinsep, Sec. &c.	777
VIII.—Section of the strata passed through in an experimental boring at the town of Gogah, on the Gujerat peninsula, Gulph of Cambay. By Lieutenant George Fulljames,	786
IX.—Note on the black and brown Floriken of Guzerat. By Lieutenant George Fulljames,	789
X.—Further elucidation of the lát or Silasthambha inscriptions from various sources. By James Prinsep, Sec. As. Soc.	790
XI.—Proceedings of the Asiatic Society,	797
XII.—Meteorological Register,	804

No. 70.—OCTOBER.

I.—Extracts from the Mohit, (the Ocean,) a Turkish work on Navigation in the Indian Seas. Translated and communicated by Joseph Von Hammer, Baron Purgstall, Aulic Counsellor, and Prof. Orient. Lang. at Vienna, Hon. Memb. As. Soc. &c. &c.	805
II.—Observations upon the past and present condition of Oujein or Ujjayani. By Lieutenant Edward Conolly, 6th Light Cavalry,	813
III.—Account of the Tooth relic of Ceylon, supposed to be alluded to in the opening passage of the Feroz lát inscription. By the Hon'ble George Turnour, Esq. Ceylon Civil Service,	856
IV.—Facsimiles of ancient inscriptions, lithographed by James Prinsep, Sec. As. Soc. &c. &c.	869
V.—Meteorological Register kept at Darjiling for August, 1837. By Dr. H. Chapman,	868
VI.—Abstract of Meteorological Register kept at the Cathmandu Residency for July and August, 1837. By A. Campbell, Esq. Nipal Residency,	889
VII.—Proceedings of the Asiatic Society,	890
VIII.—Meteorological Register,	900

No. 71.—NOVEMBER.

I.—Journal of a Trip to the Burenda Pass in 1836. By Lieut. Thomas Hutton, 37th Regiment, Native Infantry,	901
II.—Discovery of the Rekhá Ganita, a translation of the Elements of Euclid into Sanskrit by Samrát Jagannátha, under the orders of Rája Siwái Jaya Sinha of Jaipur. By Lancelot Wilkinson, Esq. C. S. Resident at Bhopál,	938
III.—Observations of the Tides at Chittagong made in conformity with the Circular of the Asiatic Society. By Lieut. H. Siddons, Engineers,	949
IV.—Translation of a Servitude-Bond granted by a Cultivator over his Family, and of a Deed of Sale of two slaves. By D. Liston, Esq. Gorakhpur,	950
V.—Note on the Malay Woodpecker. By Dr. William Bland, Surgeon of H. M. S. Wolf,	952
VI.—Notes on the Musical Instruments and Agricultural and other Instruments of the Nipalese. By A. Campbell, Esq. M. D. Surgeon attached to the Residency at Katmandhu,	953
VII.—Note on the Facsimiles of the various Inscriptions on the ancient column at Allahabad, retaken by Captain Edward Smith, Engineers. By James Prinsep, Sec. As. Soc. &c. &c.	963

	<i>Page</i>
VIII.—Interpretation of the Ahom extract published as Plate IV. of the January number of the present volume. By Major F. Jenkins, Commissioner in Assam,	980
IX.—Proceedings of the Asiatic Society,	984
X.—Meteorological Register,	988

No. 72.—DECEMBER.

I.—Abstract Journal of an Expedition to Kiang Hung on the Chinese Frontier starting from Moulmein on the 13th December, 1836. By Lieut. T. E. MacLeod, Assistant to the Commissioner of the Tenasserim Provinces, with a route map,	989
II.—Abstract Journal of an expedition from Moulmein to Ava through the Kareen country, between December 1836 and June 1837. By D. Richardson, Esq. Surgeon to the Commissioner of the Tenasserim Provinces, ..	1005
III.—Comparison of Indo-Chinese Languages by the Rev. N. Brown, American Missionary stationed at Sadiya at the north-eastern extremity of Assám,..	1023
IV.—Specimens of Buddhist Inscriptions, with symbols, from the west of India. By Colonel W. H. Sykes, Hon. Mem., As. Soc.	1038
V.—Further notes on the inscriptions on the columns at Delhi, Allahabad, Betiah, &c. By the Hon'ble George Turnour, Esq. of the Ceylon Civil Service,	1049
VI.—Account and drawing of two Burmese Bells now placed in a Hindu temple in Upper India. By Capt. R. Wroughton, Revenue Surveyor, Agra division,	1064
VII.—Note on Inscription at Udayagiri and Khandgiri in Cuttack, in the lát character. By Jas. Prinsep, Sec. As. Soc. &c.	1072
VIII.—Memorandum regarding specimens from Seoní Chupara. Pl. LVI. By D. W. McLeod, Esq.	1091
IX.—Proceedings of the Asiatic Society,	1092
X.—Meteorological Register,	1100

ERRATA.

Page line

IN No. 26, (VOL. II.) OF THE JOURNAL.

- 89, 26, for 'the first specimens,' read 'the finest.'
 93, 29, read 'No. 17 Lymnaea, . . . (mihi)—limosa.'
 523, 3, for 'knee,' read 'neck.'

IN THE JOURNAL FOR 1836.

- 733, 7, from bottom, read 'granular matter, the fovilla, and bursts if the immersion is somewhat protracted.'
 812, 21, *dele* the proposed name Cyananthus, which is already appropriated in Dr. WALICH's catalogue.
 829, 3, from bottom, for 'interesting,' read 'intimate.'

- 348, 6, after 'to this' insert 'day.'
 350, 44, for '2.3. Hunda,' read '2. Hunda.'
 377, 3, from below, for 'a,' read 'an.'
 384, 9, from below, for 'general,' read 'generic.'
 386, 22, after written insert semicolon.
 387, 4, from below, for 'صورت' read 'صورت'

- 392, 4, for 'unexpected,' read 'unsuspected.'
 391, 12, for 'Denavāgri,' read 'Devanāgari.'

- 460, 35, for '卐' read '卐'.

- 467, 19, for 'Parthia,' read 'Bactria.'
 468, 21, for 'the Sanchi,' read 'at Sanchi.'

The vowel mark *e* has been broken off under the press in a great many passages of the Sanskrit readings of the Delhi inscription in the July number, particularly in the word *mé*.

- 581, 7, after 'by,' insert 'the.'
 583, 5, of notes, for 'nimitat,' read 'nimita.'
 584, 12, ditto *dele* 'm' after 'esa.'
 585, 9, ditto for 'junè,' read 'janè.'
 — 20, ditto for 'participular,' read 'participular.'
 594, 25, ditto for 'adopting,' read 'adapting.'
 595, 12, ditto for 'nacshatras,' read 'nacshatric.'
 603, 11, ditto for 'dhara,' read 'ādhāra.' —
 604, 4, ditto for 'neat,' read 'next.'
 608, 6, ditto for 'you,' read 'thou.'
 — 19, ditto for 'Kahgur,' read 'Kahgyur.'
 676, 7, for 'this powerful,' read 'his powerful.'
 — 3, from below, for 'ayantaliyam,' read 'anantaliyam.'
 766, 29, for '24° 13½,' read '24 miles: 13½.'
 779, 2, and 5, for 'is,' read 'are.'
 791, 8, for 'Chadaguttassa,' read 'Chandaguttassa.'
 — 17, for 'leaes,' read 'leaves.'
 794, 7, after quarter, insert full point.
 — 3, from bottom, for 'very,' read 'verb.'
 795, 30, for 'papey,' read 'paper.'
 — last line, for 'वह' read 'वट.'

- 876, 1, for 'توفي يوم الثلاثاء' read 'توفي يوم الثلاثاء' and in the translation, line 14, for 'WAD,' read 'WALD,' (or WALR,) and for 'Monday,' read 'Tuesday.'

- 884, 7, for 'बसारि,' read 'विसारि.'
 13, for 'आयातरम्,' read 'आपातरम्.'
 19, for 'विशेषि,' read 'विस्माधि.'

- 976, 3, for 'सुट,' read 'सुट.'
 4, for 'हसु,' read 'हासु.'
 6, for 'तलो,' read 'तलो.'

- 13, for 'सादिकेनायेनचत्तो,' read 'सादेकेनायेनचत्तो.'
 977, 18, for 'जाद्वनेरणा,' read 'जनोद्वरणा.'

942, [The extract from the Rekha Ganita differs very materially from the copy in the College here, and the following passage in page 944, after the word भवति in line 7 is required to complete the explanation of the figure:

तद्विशिनद्धितयोः रेखयोरन्तरम् संचरमधिकमेव भवति यच्चाल्प मन्तरं
 The rest are additions to the preface which it is less necessary to correct.]

LIST OF PLATES.

Plate I. (XXXII. of vol. V.) Bhitári Lát inscription, to face page	1
II. Alphabets of the Tai language,	19
III. Specimen of the Khamti writing,	20
IV. Specimen of the Ahom language,.....	<i>ibid.</i>
V. The Eria silkworm of Assam, <i>Phalæna cynthia</i> ,	23
VI. The Moonga silkworm of ditto, <i>Saturnia Assamensis</i> ,.....	30
VII. Facsimiles of an inscription in the Asiatic Society's Museum, translated by Captain Marshall,	89
VIII. Occiput of the <i>Sivatherium</i> ,	152
IX. Lower jaw of the same fossil animal,	152
X. Inscription of Dipaldinna at Amarávati,	218
XI. Another inscription from the same place,	222
XII. Fossil shells of the <i>Chári</i> range in <i>Cutch</i> ,	159
XIII. Alphabet of the Amarávati character,	222
XIV. XV. Indo-Sassanian Coins,	288
XVI. Head of the <i>Bos Gaurus</i> (?) or <i>Gayal</i> ,	224
XVII. Facsimile of Museum Inscription, No. 6,	280
XVIII. Fossil bone brought up in the boring in Fort William ; head of the <i>Bos Gaurus</i> (museum) ; and fossil quadrumanous tooth,...	236
XIX. Map of Captain Hannay's route,	245
XX. Ceylon Coins,	298
XXI. Diagram of moon's declination ; coluber mycterizans, and fossil bone from Fort boring,	304
XXII. Sindhi and Multani alphabets,	352
XXIII. Fossil Qaudrumana of the Sewálik,	360
XXIV. Legends on Saurashtra coins,	382
XXV. Principal Inscription at Sanchi,	454
XXVI. Second Inscription from the same place,	458
XXVII. Various smaller ditto in the Lát character,	460
XXVIII. View of the Sanchi Monument, ...	452
XXIX. Details of the Architecture of ditto,	452
XXX. Fossil fore-leg of an elephant from Jabalpur,	488
XXXI. Head of a fossil Batrachian,	540
XXXII. Inscription in <i>Hala Kanada</i> , and Kalinjer inscription,.....	665
XXXIII. Gumsar copper-plate Grant,	666
XXXIV. } XXXV. } Inscriptions from the Caves near Gaya, { XXXVI. }	{ 672 676 676

XXXVII.	Inscription on a fragment of rock at Singapur,	680
XXXVIII.	The <i>Testudo geometrica</i> ,.....	696
XXXIX.	Osteology of the Bibos, or Gauri Gau,.....	748
XL.	Rèstoration of the <i>Allahabad</i> pillar, ..	798
XLI.	<i>Bareilly</i> inscription,	778
XLII.	<i>Delhi</i> lát inscription,	796
XLIII.	Town of Oujein, and water-palace,	813
XLIV.	Facsimile of Multai copper-plate Grant,	868
XLV.	Ditto of Epitaph on an Arabic tombstone, ..	873
XLVI.	Ditto of an Inscription from Cabul,	876
XLVII.	Sketch of the Khaiber Tope,	876
XLVIII.	Inscription in As. Soc. Museum, from Calinjer,	881
XLIX.	Map of Capt. McLeod's route to Zimmay,	989
L.	Diagrams of the <i>Rekhá Ganita</i> , ..	948
L. & LI.	Burmese Bells,	1068
LII.	Map to illustrate geology of Seoni, Jabalpur,	1092
LIII.	Inscriptions from the Sainhadri caves,	1044
LIV.	Udayagiri Inscriptions,	1080
LV.	Inscription No. 2 of the <i>Allahabad</i> pillar,.....	978
LVI.	Various fragments of ditto,.....	968
LVII.	Inscription on the <i>Khandgiri</i> rocks,	1090



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I.—*Remarks on M. SCHLEGEL's objections to the restored editions of the Alif Leilah, or Arabian Nights' Entertainments. By HENRY TORRENS, Esq. B. A. and of the Inner Temple, B. C. S.*

At the time of the purchase of the Macan MS. by Mr. BROWNLOW, several of the most distinguished Arabic scholars in this part of India registered in this journal their opinion of its value. The style of the language was declared to be singularly pure, the narrative spirited and graphic, and the collection of stories enriched with many tales either perfectly new to European readers, or else given in a form very different from that under which they have been hitherto known, garbled and abridged by the carelessness of translators, or by imperfection of the MSS. whence they were translated. Since the publication of the opinions above alluded to, a letter addressed by Mons. DE SCHLEGEL to Mons. le Baron DE SACY, upon the subject of the thousand and one nights, has excited some attention in *Calcutta*, with reference especially to the supposed excellence of the Macan MS. Mons. DE SCHLEGEL has asserted of these celebrated tales generally, that many, if not most of them, are plagiarized from a Sanscrit original, and that others are "intercalated" stories, taking their rise in neither India nor Arabia. Hence he concludes that the greater the number of tales, the more frequent the plagiaries and intercalations; and such being the case, "we may be assured," he says, "that the most voluminous edition of the thousand and one nights will be the worst." Without stopping to weigh the soundness of this line of argument, based on a *petitio principii*, and inducing a most inconclusive conclusion, it is worth while (the attack being so sweeping) to assume the validity of this reasoning, and prove the

strength of Mons. DE SCHLEGEL's position by examining the instances with which he supports it. If his conclusion be a true one, then the Macan MS. must be the worst instead of the best form of the thousand and one nights hitherto discovered, for it is "the most voluminous:" the first five nights in this MS. for instance, contain the matter of the first seventeen nights of GALLAND's edition, and an additional tale, entirely new, besides. In deference to so celebrated a literatist as Mons. SCHLEGEL, it is proper to consider what he advances attentively, and, keeping strictly to the letter of his arguments, to refute them, if possible, by their own assertions. It will not be perhaps difficult to show that the critic's reasons for the adoption of the above opinion are remarkable rather for ingenuity than soundness, or to prove by demonstration that the new tales of a "most voluminous" edition may bear not only the stamp of originality, but also strong internal evidence that they are indigenous to *Arabia*.

Mons. DESCHLEGEL supposes that the tales of the thousand and one nights could never have been popular with Mussulmans, owing to the multitude of supernatural beings of different kinds crowded into them, there being, he says, "scarcely another step hence to the doctrine of polytheism." In expressing this opinion, Mons. DE S. has entirely forgotten the extreme superstition of the followers of the Prophet with respect to the existence of *jinn*s, (both believers and accursed,) *ghols*, *ufreets*, and many other classes of imaginary beings, each distinguished by some peculiarity of character and habits. These are introduced in multitudes in the tales in accordance with the ordinary Arab superstitions which obtain most credit with the most bigoted Mussulmans. They are introduced with most liberality in some of the tales abounding especially in the expressions of religious feeling, and the believing spirits invariably make use of the ordinary devotional phrases so constantly in the mouth of an Arab. They are introduced not on the *dignus vindice nodus* principle as what Mons. DE S. calls "semi-deities;" they take part in the action of the story, and from their stupidity are the butts of the superior intelligence of men. So far from showing marks of transmutation to an Arab shape from a heathen original, they appear to be themselves the surest proofs of the Arabian extraction of the stories they figure in. Mons. DE S.'s determination to prove the Indian origin of many of the tales has led him to the singular supposition that a people whose manners they faithfully depict, and whose superstitions they embody, that a people whose very language bears testimony to their passion for fiction, (the same word being employed in Arabic

to express *conversation* and *the relation of stories*) would neglect such tales even though indigenous to their fatherland because the excess of supernatural agency in them savoured of "polytheism!"

With reference, however, to the objection by Mons. DE S. on the point of plagiarised tales, and his attempt to prove the plagiary by anachronisms, an expression in the story of the fisherman and the jinn in the Macan MS. may be cited, not inopportunately, as giving some index to the date at which it was originally composed. The jinn is described as having been shut in a jar for "*one thousand and eight hundred years*" from the time of SOLOMON, the son of DAVID. Now this tale with one of Mons. DE S.'s "*semi-deities*" in it, whom he supposes importations into *Arabia* from an idolatrous source, and abominations in the eyes of orthodox Mussulmans, was by the above account composed during the third century of the Hejira, at the very height of Mussulman orthodoxy.

Arguing on the supposition of the transmutation of most of the tales from heathen originals, Mons. DE S. proceeds to point out how the Koran might have been introduced instead of the Vedas, and the name of HAROUN UL RASHEED made to supersede that of VICRAMADITYA; and with reference to the introduction of that Khalif's name, he cites the expression in the commencement of the thousand and one nights, "the chronicles of the Sassanians" as constituting a palpable anachronism. Now the expression quoted does not exist in the Macan MS.: the words are *a king among kings descended from the dynasty of Sassan*; and the mention of Islamism among descendants from Sassanian princes does not appear to be in any way anachronous. Again, Mons. DE S. has ingeniously discovered in the four colors of the fish, (vide the tale of the fisherman) who in their natural shape were a population of Christians, Jews, Mussulmans, and Idolaters, a type of the four castes of the Hindoos; for, says he, "the metamorphosis in the original was brought about by a *jeu de mots*; *varna* in the Sanscrit signifying *colour* as well as *caste*." This will hardly hold good when we look to the Arabic wherein special mention is made of the different *religions* of the men transmuted into fish of different colors. Now the Hindus have, it is true, four principal castes, but their *religion* is a common one. Another instance on which much stress is laid by Mons. DE S. of the internal evidence of an Indian extraction offered by the tales is cited from the tale of the king and the physician. The position is this. 1. The king is poisoned by a MS. 2. Some Indian MS. are saturated with a solution of orpiment to protect them from insects. 3. No other MSS. are

so saturated. 4. This was, therefore, an Indian MS. thus prepared. 5. This was, therefore, an Indian king. 6. This was, therefore, an Indian story. The answer to this somewhat illogical sorties is—1. That an Indian king turning over an Indian MS. would not, as did the king in the story, have exposed himself to the chance of being poisoned. 2. That the supposition of the MS. being an ordinary Indian MS. would utterly take away the moral of the tale. 3. That (as the tale tells us) the supposed MS. was no MS. at all, for “the king turned over six leaves, and looked upon them, *and found nothing written upon them,*” which induces a further search into the book, and a more certain death in consequence. But perhaps a literal translation of the latter part of the story from the Arabic of the Macan MS. will best show the futility of Mons. DE S.’s argument, the moral of the tale being the retribution inflicted by the victim on the oppressor by means of the knowledge he is in the commencement said to possess of “all modes of healing, *and of hurting.*”

Extract from the Story of the Physician and the King.

“And after this the executioner stepped forward, and rolled his eyes fiercely, and drew his sword, and said, ‘Give the word;’ and the physician wept, and said to the king, ‘Spare me, spare me, for the love of God, and kill me not, or God will kill thee,’ and commenced extemporaneously reciting,

‘If I live no man I’ll profit; if I perish curse for me
All the good, when I’m no more, with every curse of infamy.
I was kindly; others cruel; they were prosperous; I lost all;
And benevolence hath made me master of a ruined hall*.’

Then said the physician to the king, ‘This is the return I meet from you; you return me the reward of the crocodile.’ Then said the king, ‘And what is the tale of the crocodile?’ The physician replied, ‘It is not possible for me to tell it, and I in this state; and as God is with you, spare me as God will spare you.’ So then the physician wept with exceeding weeping, and certain of the king’s private attendants arose, and said, ‘Oh! king, grant us the life of this physician, for we have not seen him commit one fault towards you, and we have not seen him save as healing you from your disease, which baffled all physicians and men of science.’ Then said the king to them, ‘You know not the cause of my putting to death this physician and this it is, that if I spare him, surely I myself am doomed

اذا عشت لم انصم وإن مت فاعذو*
ذوي البضم من بعد ي بكل لسان
نصحت فلم افلح و خانوا فافلحوا
واورثني نصي دارهوان

to death without a doubt, for by healing me of the disease which I had by something held in the hand, surely it is possible he may slay me with something given me to smell; hence I fear lest he kill me, and take a bribe for doing it; since he is a spy, and has come hither for no end but to compass my death; so there is no help for it,—die he must, and after that I shall be assured of my own life.’ Then said the physician, ‘Spare me, spare me, for the love of God, and kill me not, or God will kill you.’ Now when the physician, Oh ufreet, knew for certain that the king would put him to death without a doubt, he said to him, ‘Oh king, if there is no help for it, but that I must die, then grant me a space that I may go down to my house, and appoint my people and my kindred where they may bury me, and that I may relieve my soul from its obligations, and distribute my books of medicine. And I have a book, rarest of the rare; I offer it to you as an offering; keep it as treasure in your treasury.’ Then said the king to the physician, ‘What is in this book?’ He replied, ‘Things countless beyond the power of computation; and as a small portion of the secrets that are in it, if you directly after you cut off my head open three leaves of it, and read three lines of the page on your left hand, then the head will speak with you, and give you answers to every question which you ask it.’ So the king wondered with exceeding wonder and shrugged with satisfaction and said, ‘Oh physician, what! directly I cut off your head will you speak to me?’ He answered, ‘Even so, O king.’ So replied the king, ‘This is a strange matter,’ and forthwith sent him away closely surrounded by a guard; and the physician went down to his house, and performed all his obligations on that day, and on the next day he went up to the king’s hall of audience; and the umeers and ministers and chamberlains and deputies in office and the supporters of the state went up also, the whole of them, and the presence chamber was as a flower bed of the garden: and lo! the physician came up into the presence chamber and stood before the king surrounded by guards, and with him he had an old volume, and a bottle for holding antimony, and in it a powder: and he sat down and said, ‘Give me a charger,’ and they gave him a charger; and he poured the powder upon it, and spread it out, and said, ‘Oh king, take this book and open it not until you have cut off my head, and immediately you have cut it off, place it on this charger, and order its being thrown upon that powder, and directly you have done that, the blood will stop flowing; then open the book.’ So the king gave orders for the cutting off the physician’s head and took the book; and the executioner arose, and struck the physician’s neck with the sword, and placed the head in the middle of the charger, and threw it upon the powder, then the blood stopped flowing, and the physician Dooban opened his eyes, and said, ‘Open the book, O king;’ so the king opened the book, and found the leaves stuck together, so he put his finger to his mouth, and moistened it with his tongue and opened the first leaf, and the second, and the third, and each leaf did not open but with much trouble; so the king turned over six leaves and looked upon them, and found nothing written upon them.

Then said the king, ‘ O physician, there is nothing written upon these ;’ and the physician replied, ‘ Turn over more still ;’ so he turned over three more, and there had but a short space elapsed before the drugs penetrated his system at one time and on the instant, for the book was poisoned, and forthwith the king began to be convulsed, and cried out, and said, ‘ The poison has penetrated me,’ and the head of the physician Dooban began to repeat extemporaneously,

‘ They issued savage mandates, but not long
Survived they in their cruelty, for lo !
’Twas but a little, and the mandate was not.
Had they done justice, justice were done them—
But they did ill, and evil was their portion ;
And fortune turned against them, strongly armed
With acts of woe and trouble. Thus they passed hence,
And the mute eloquence of their condition
Repeated to them, “ This is your reward.—
Blame not the retribution ! ” ’

(So goes the tale) ; so when the physician’s head finished its speech, the king fell down on the instant a dead corpse.”

The above extract will give some idea of the literal style of a tale so popular under GALLAND’s paraphrase, but expressed in the Macan MS. (as will be observed on comparison) much more in detail, and more graphically.

There remains now but to allude to Mons. DE SCHLEGEL’s remaining assertion, that the more voluminous the edition of the thousand and one nights the worse will it be. The best reply to this will be the citation of a new tale forming part of the recital of the fourth night in the Macan MS. It offers a fair occasion for the formation of a judgment on Mons. DE S.’s sweeping assertion, for it has never been found save in this voluminous edition, and is now translated of course for the first time.

The Story of the King Sundabad.

“ It is said that there was a king among the kings of Fars, who was fond of sport, and of exercise, and of hunting, and of trapping game, and he had always a certain hawk near him, which he let not be separated from him by night nor by day ; and all night long he had it sitting on his hand, and whenever he rose up to hunt he took the bird with him. And he made for it a cup of gold hung round its neck, to give it to drink out of. Now it fell out as the king was sitting, behold the chief falconer began to say, ‘ Oh ! king of the age, these are the days for going forth to hunt.’ Then the king ordered that they should set forth, and took the hawk on his hand ; and they journeyed till they arrived at an open plain, and they

struck out the circle for the battu, and forthwith a doe antelope came within the circle. Then said the king, 'Over whose head the antelope shall leap and get away, that man will I kill.' Then they narrowed the circle of the battu about it, and, behold, the antelope came before the king's station and stood firm on its hind legs, and gathered in its fore feet to its breast, as if about to kiss the earth before the king; so the king bowed his head in acknowledgment to the antelope; then it bounded over his head, and took the way of the desert. Now it happened that the king saw his attendants winking and pointing at him, so he said, 'Ho! vuzeer, what are my attendants saying?' The vuzeer replied, 'They say you proclaimed that over the head of whomsoever the antelope should leap, that man shall be put to death.' Then said the king, 'By the life of my head, surely I will follow her up till I reach her;' so the king set forth in pursuit of the antelope, and gave not over following her till she reached a hill among the mountains. Then the antelope made as she would cross a ravine, so the king cast off his hawk at her; and the bird drove its talons into her eyes, to blind and bewilder her, and the king threw his mace at her and struck her so as to roll her over. Then he dismounted, and cut her throat and flayed her, and hung the carcass to the pommel of his saddle. Now it was the time for the mid-day sleep, and the plain was parched and dry, nor was water to be met with in it; and the king was thirsty, and his horse also; so he went about searching for water, and he saw a tree dropping water, as it were clarified butter. Now the king wore gloves of the hide of a beast of prey, and he took the cup from the hawk's neck, and filled it with that water, and set down the water before the bird, and lo! the hawk struck the cup with its talons, and overturned it. So the king took the cup a second time, and caught the drops of water as they were falling until he filled it, for he thought the hawk was thirsty; so he set the cup before it, but she struck it with her talons and upset it. Then the king was annoyed with the hawk, and got up a third time, and filled the cup, and put it before his horse, but the hawk overturned it with its wings; then said the king, 'The Lord take you, you unluckiest of birds! you keep me from drinking, and keep yourself from drinking, and keep the horse from drinking!' So he struck the hawk with his sword, and cut off its wing, but the hawk began lifting up its head, and saying by signs, 'Look at what is beneath the tree.' Then the king lifted up his eyes, and saw below the tree a young snake, a poisonous one, and this which was dropping from the tree was its poison. Then the king repented him of having cut off the hawk's wing, and arose and mounted his horse and went, taking with him the antelope's carcass until he arrived at his tent within the hour, and he gave the antelope to the cook, and said to him, 'Take, and make this ready.' So the king sat down in his chair, and the hawk on his hand, and the bird struggled gaspingly, and died. Then the king cried out, wailing and lamenting for having slain the hawk, and it was the cause of saving him from death! And this is what occurred in the story of the king *Sundabad*."

The above short tale is valuable as answering more than one of Mons. DE S.'s arguments. It contains instances of the same power of description and habit of close observation which form the principal charm of the known tales. Any one who has been in the custom of watching the antelope, or observing the natural motions of the hawk, will recognise the action of the one and the other faithfully described in the attitudes common to them when scared or excited. The mention too of *hawking the antelope* proves the story to be purely Arabian: no other nation but the Arab using the hawk against large animals. The Persian hawks the hare, but only the Arab flies his bird at the antelope. Thus then, so far from the additions to the "most voluminous" edition being the cause of its deterioration, as unnaturally adapted from foreign sources to Arab manners, the very first of those additions is found to be a spirited tale describing graphically and naturally the progress of passion, (excited originally by a trifle, and ending in the blind commission of an act of ingratitude) and giving indisputable evidence of an Arab origin.

The judgment of those infinitely better qualified than myself to pronounce on the merits of the Macan MS. is, it is submitted, fully supported by the result of this brief inquiry. The translation having been made literally from the Arabic, this will account for a singularity of expression which may be displeasing to most readers. In undertaking to introduce the new tales to the English reader, I would be glad to avail myself of opinions upon the expediency of holding to this style of translation, or adopting one more consonant with European idioms.

[NOTE.—As far as we may be allowed to be capable of judging on such a point, we think our correspondent's style of expression is particularly felicitous and suitable to the work, of which we are happy to see this public acknowledgment of his having undertaken the translation.

We had rather that the stories should retain the terseness, the simplicity, the very turns of expression as well as of idea so peculiar to the language as to the literature of Arabia, than that they should be dressed up in the uncongenial disguise of modern idiom however elegant. There is at the same time nothing, in the style adopted, repugnant to our ears, already familiar from childhood with the oriental phraseology of the translated scriptures:—but, on the contrary, the total foreignness and antiquity of the incidents and reflections, and the admixture of the supernatural, now discarded from our own works of fiction, seem to acquire support and harmony from a corresponding style of diction. We need only refer the reader to the parallel passages quoted in the *Minute on the Macan MS.* by Dr. MILL (vol. V. page 598) to prove the great superiority of tone and keeping, as an artist would say, in the strict dry nervous copy of the original, as contrasted with the smoothened, mannerized, and totally Frenchified, though in many respects pleasing, picture of M. TREBUTIEN.—ED.]

II.—*Journal of Captain C. M. WADE's voyage from Lodiana to Mithankot by the river Satlaj, on his Mission to Lahór and Baháwulpur in 1832-33. By Lieut. F. MACKESON, 14th Regt. N. I.*

On the 8th December, after some days spent in constructing temporary locks on the *nala*, and here and there widening and deepening its channel, the boats arrived at its mouth and entered the river *Satlaj* about a mile above the village of *Wallipura*.

Our fleet consisted of eight boats, three built by Captain WADE at *Lodiana* for the accommodation of the mission, after the model of those used on the river *Ravi*; one of a similar construction, the property of *Lodiana* merchants, also built at *Lodiana*; two common *Satlaj* ferry boats, belonging to *Lodiana* baniahs; and two small boats with oars, for the convenience of communicating with the shore and taking the bearings of the reaches of the river.

The *Ravi* boats are flat-bottomed, and nearly square fore and aft, with the prow and stern slightly raised: those built at *Lodiana* varied in length from fifty to fifty-five feet, and in breadth from eleven to twelve feet, having a depth of two and a half to two and three quarters feet. They drew, when not laden, from ten to fifteen inches water, and going down the stream in the actual state of the river were capable of carrying from two hundred and fifty to three hundred maunds.

The ferry boats in use in this part of the *Satlaj* are not much better than rafts, from which they differ little in appearance. They are very broad at the stern, and terminate in a point at the prow, which is carried up high into the air. Although calculated for no other purpose, they are well adapted to the transport of hackeries and cattle across the river; the side planks being low, laden hackeries are easily lifted over them into the boats; or the ground at the ghât is raised to a level with them, and the time lost in embarkation and disembarkation is comparatively trifling. Accidents to cattle can seldom occur, as they are able to step into the boats without difficulty, and no space being lost in cross beams or partitions, a great number can be accommodated at a time.

Wallipura is a small village, containing from thirty to forty mud hovels: it belongs to Sirdar FATEH SINGH ALAWALLA. We remained there on the 9th in expectation of the arrival of a party of Mahá-rája RANJIT SINGH's irregular horse, which was to escort the boats along the left bank of the river.

The breadth of the river at this point, where not intersected by sand banks, measured two hundred and fifty yards. The deep channel

under the left banks gave from fourteen to fifteen feet water, which decreased to seven and six feet within twenty yards of the shore, beyond which it was extremely shallow.

From *Ropur*, where the *Satlaj* enters the plains to where it is joined by the *Lodiana nala*, it may be said to have run a course of near fifty miles. At *Ropur* its bed consists of large smooth pebbles mixed with a slimy mud; after leaving that place it runs over a loose sandy soil through a flat country, and during this part of its course the present left bank is generally low. There is a high bank passing close under *Chamkaur*, *Balolpur*, *Máchiwára kum*, and *Lodiana*, which points out the old channel. This is now pretty nearly the course of the small *nala*, which rises in the marshy ground between *Ropur* and *Chamkaur*, and enters the *Satlaj* a little above *Wallipura*. The slip of land between it and the present channel of the *Satlaj* varies in breadth from eight to two miles and less: it is low and much intersected with *nalas*, most of which are without water during the greater part of the year; but their beds and banks retain a degree of moisture when the rest of the country is parched and dried up, and afford an abundant supply of grass of a good quality within a convenient distance from the cantonment of the troops.

The right bank from *Ropur* downwards is generally high and the face of the country elevated, sloping gradually from the hills, which recede northwards, towards the river, near which it is much broken and cut up by ravines. On both sides the country is tolerably open and free from heavy jungle, but on the right sparingly cultivated. Water is found much nearer the surface on the left than on the right bank, and cultivation is more uniform. There is a tract of grass jungle on both sides of the river near *Chamkaur*: it forms excellent pasture for buffaloes which are numerous and particularly large. Wild hogs are sometimes found in this vicinity: they come from the hills on the opposite side, and swim the river at night to feed on the sugar-cane.

The tamarisk jungle is seen in small quantities near the river at *Talore*, and even higher up, but never grows to any considerable height, and is thin and straggling: the soil left by the overflowing of the river in which it chiefly grows, does not appear to have acquired that richness which it is said to possess at a greater distance from the river's source.

During the cold weather when at its lowest, the *Satlaj* is fordable in many places between *Ropur* and *Lodiana*, and even to its junction with the *Béas*; but it can no where be forded in a direct line; it is necessary to follow the shoals or sand banks, which make the passage

circuitous and tedious ; and owing to the numerous quicksands, it must always be considered an affair of danger for bodies of troops to attempt. As the sands are constantly shifting, the fords also are liable to change.

I am not aware of the exact number of boats between *Ropur* and *Lodiana*. The principal ghâts or ferries are those opposite to *Râhon*, *Mâchiwâra* and *Fabor* ; the two first lie in the route from *Jâgadri* on the *Jumna* to *Amritsir*, and a considerable traffic passes by them. There may be sixteen boats at *Râhon* and eight at *Mâchiwâra*. The ghât at *Fabor* has upwards of fourteen, and is also much frequented, lying in the direct route from *Ambâla* through *Lodiana* to *Amritsir* or *Lahôr*. There is also a ghât at *Kirâna*, which may have eight boats, and another near *Ropur* which has four. Besides the boats at the ghâts there are a few scattered here and there at the different villages on the banks of the river belonging to the zemindars, and used by them for the convenience of crossing to and fro, and transporting grain and firewood.

On the morning of the 10th we left *Wallipura*. The river was swollen and muddy from rain, which had fallen higher up during the two previous days, and which somewhat increased the rapidity of the current. As near as I could judge from the rate at which people were walking on the bank, it must have averaged near three miles in the hour. Our boats kept chiefly in the shallow water for the convenience of using the pole to push them along ; they are furnished with oars, but the *Satlaj* and *Ravî* boatmen seem to be unaccustomed to their use ; and the oars are so very clumsy and unwieldy, that they would require at least four persons to each to serve them with effect.

Leaving *Wallipura* the deep channel runs under the left bank for upwards of a mile, when the river separates into three branches ; the main one, which we followed, running under the right bank to *Dhâdhûra*, near which the three branches again unite and form an uninterrupted channel 400 yards broad. On our left we passed the ghât of *Talwandi*, where there were ten boats similar to those already described. Judging from the number of people we saw crossing, it must be a considerable thoroughfare ; a small traffic passes by this route from *Jhajraon* and the *Mûlk Rohie* to *Doab bist Jalimdar*.

After passing *Talwandi* the deep channel again crosses over to the left bank, and on approaching near to *Bhundri*, makes a long sweep in towards the left, running close under that village.

The country on our left to-day was low and uncultivated, subject to inundation, and consisted chiefly of pasture land ; that on our

right appeared high. There were fields of stubble and patches covered with the cotton plant. We passed one inlet from the river on the right, and a *jharí* jungle extending a short distance on the bank, but low and thin. We stopped at *Bhundri*, estimated distance from *Wallipura* four kos. This village, like the rest which we passed to-day, is hardly deserving of remark: it contains a small *paka* mosque, which is in much danger of being destroyed by the river. The dwelling houses, of which there may be 100, are all of mud, either thatched or with *kacha* terraced roofs. It has two *baniahs'* shops. The inhabitants are chiefly Mussalman zemindars. *Bhundri* and *Khánpur*, *Wazir ke Gaur*, villages in the neighbourhood, are inhabited by a caste of Putial Rajpúts, who claim descent from Rájas *Hospál* and *Jagpál*. Their ancestors were converted to Islamism some five centuries ago by HAZRAT SHÁH KATÁL CHISHTI, one of the descendants of HAZRAT SHEIKH FARID, the famous saint of *Pák Patan*. His relics are deposited somewhere between the villages of *Talwára* and *Sheikh Chishti* under the shade of a grove of *bábul* trees: there is his *khángáh* or shrine, which the surrounding inhabitants visit in great crowds on certain days of the year to pay him the honors due to a saint.

The *Patiáls* retain many of their Hindu customs, especially the ceremonials at births and marriages, in which the Brahmin priest often assists and claims the usual fees.

They intermarry only among themselves, it being thought a disgrace to give their daughters in marriage to a person of different caste or descent.

The *Jats*, *Gujars*, *Harnis*, *Arráins*, who chiefly compose the peasantry of the country from above *Lodiana* down to *Ferozpur*, all claim descent more or less remote from a Rajpút stock. They are generally ill-looking, tall and thin, but with large bones and sinewy limbs. The usual dress of the better sort is a blue-colored *dhóti*, tied somewhat differently from the common mode, reaching down nearly to the ankles, and seeming to embarrass their motions in walking. With this they wear a large cotton *chadder* or sheet, which is either flung in double folds over the shoulder and across the breast, or used to cover the whole body; it is exchanged for a blanket in the cold weather. The turban is of cotton, either plain or dyed blue, and tied sometimes Sikh fashion in a high *topí*, and sometimes in loose folds, leaving great part of the head uncovered. The coarse cotton cloth which forms their ordinary wear is a home manufacture. The poorer among them are little troubled with clothing of any description.

Their women share in the labour of the field, and perform all the menial and laborious offices about the house. They fetch water from the wells, prepare the cakes of cow-dung (*opla*) for fuel, and cleanse and plaister their mud hovels and *chabútras*, while the husbands are smoking their pipes, or employed in making rope of the *múnjh* grass and repairing their implements of husbandry. Disputes among them are referred to a *panch* or council of the Chaudries (elders of the village), or to arbitrators chosen by the parties. The men are addicted to the use of *bhang*: are turbulent, quarrelsome, revengeful, and careless of the shedding of blood. Their prevailing vice is petty thieving. Female infanticide is practised, but is not very common among these tribes.

After the decline of the *Dehli* empire, the whole tract of country from *Ropur* down to *Mamdot* on the left bank of the *Satlaj*, fell a prey to RAI AHMAD MUNJ, one of the numerous adventurers who rose to a temporary consequence in those days. When RANJIT SINGH crossed the *Satlaj* in 1808, and took *Jagrón*, the portion of this extensive territory which still remained in the possession of RAI AHMAD's family was subjected to that conqueror, and *Jagrón* and its dependencies were bestowed by him in *jaghir* on Sirdar FATEH SINGH ALAWALLA, under whose rule they still continue. His territory joins that of the *Jhind* rája near *Lodiana*, and reaches with few interruptions to within a short distance of *Firozpur*. It is ill cultivated and almost destitute of wood, which is no where used for fuel by the villagers. *Jagrón*, the *Dár-ul amal*, is about 10 miles inland from *Bhundri*.

On the 11th we left *Bhundri*. For two miles beyond this place the left bank of the river is excessively high; the deep channel runs rapidly under it, undermining large fragments of the soil, which continued falling as we passed, and raised large waves on the river. After passing the villages of *Khát* and *Gursian*, the deep channel crosses over to the right bank, leaving the villages of *Talwára* and *Sheikh Chishti* far away to the left, at the extremity of a wide tract of sand. Further on, at the same distance from us, we passed *Bhamál* and *Sálampur*, when the river again doubled round a point, and the deep channel brought us under the village of *Sidhuan* on the left bank.

To-day the river was devious and winding in its course, much intersected with sand-banks, which from a distance appeared to stretch quite across the channel and threaten a serious obstacle to further progress. The shoals were numerous, appearing to cross each other

in all directions; insomuch, that it required great care and attention to steer clear of them. None but an experienced eye could distinguish from a long distance what the boatmen call "*kacha*" from "*paka-jal*." A villager who accompanied us from *Bhundri* pointed to a number of temporary huts on the left bank near that place, the inhabitants of which had, in his memory, removed no less than three times from one bank to the other, in consequence of the river changing its course and undermining its banks. Abounding as it does with shoals and sand-banks, and running over a loose soil through a flat country, this frequent change in its channel is the less surprising: it generally occurs after the rains, when its waters are swollen and impregnated with earthy particles. The prevalence for a length of time of a particular wind occasions the choaking up of the old channel, which the waters leave on subsiding, to pursue a new direction.

The country to-day differed little in its features from that we had passed the day before. At this season there are no crops standing, and, save in the vicinity of villages where a few garden vegetables give an appearance of verdure, the whole has an unvaried arid aspect. Trees are only seen near the villages, and those generally of the common *bér*, with here and there a *pipal*. The *jhán* is met with only in small patches, low and straggling. There was a great improvement observable in the soil of the banks of the river, especially that of the right bank, which exhibited strata of a rich red clay with mould of a darker color beneath. During the first part of our course after leaving *Bhundri*, the current was rapid, running under the high bank at the rate of four miles an hour; as we approached the end of our journey it became sluggish, scarcely averaging a mile and a half. We had a depth in some places of eighteen and twenty feet, and in others not more than four: in the deepest part this occurred where there were many channels, and we might not have been in the deepest, although we always chose those which in appearance promised to have the greatest body of water.

In passing *Sidhuan* I observed immense flocks of wild geese feeding on the sand-banks, and close to them an alligator, the first I have seen on the river, though they are said to have been found as high up as *Ropur*, and small ones are sometimes caught in the *nala* near *Lodiana*. Perhaps the coldness of the weather may account for my not having hitherto seen them in greater numbers. There appear to be few wild ducks or teal. The *jal kawá*, which we call the black diver, is common.

We came to about a mile beyond *Sidhuan* ; estimated distance from *Bhundri* eight kos.

There is a ghât at *Sidhuan*. It is in the road to *Ropur*, in the *Doab* bist *Jalimdar*, and has ten boats, but the traffic by this route is inconsiderable. The duties are levied by the officers of Mahâ-râja RANJIT SINGH and Sirdar FATTEH SINGH ALAWALLA, on either side respectively. The village of *Sidhuan* is large, but has no bazar ; contains from two hundred to two hundred and fifty mud and *paka* dwelling houses ; with three *baniahs'* shops or *hattis* which supplied our people with food.

On the 12th we left *Sidhuan*. The channel continued under the left bank for upwards of two miles, when it passed the village of *Shaffipura*, and, crossing over to the right with considerable winding, brought us in the fourth reach nearly opposite to *Tihara* ; there dividing into two branches, the smaller one ran directly under that town, while the larger struck off to the right towards *Kannian* and *Bhaggian*.

Tihara is the site of extensive ruins, which shew that it was once a place of some consequence ; native authorities mention its being inhabited so long ago as the time of the Persian SECANDER SHÂH's expedition. The ruins now standing are of more modern date. It has suffered great damages from the inroads of the river. The present dwelling houses of the inhabitants are of mud, and mingle disagreeably with the half dilapidated but substantial brick walls of its former buildings. In the time of the *Dehli* emperors, it was attached to the Suba of *Lahôr*. It was taken from the descendants of RAH AHMAD MUNJ (after they had been driven from *Mamdôt* by the Pathân family of KUSUR) by RANJIT SINGH, and given by him in *jaghir* to FATTEH SINGH ALAWALLA. The soil in the vicinity is good, and there are a number of fine *paka* wells, but little cultivation. The zemindars are *Arrdins*, more commonly called *Mollies*, to the eastward ; a class who seldom engage in cultivation on a large scale.

About six miles beyond *Tihara* is the village of *Tariwâla*, opposite to which the right branch of the river again divides, the main stream making an immense circuit to the north-west, and leaving an island of three or four miles in breadth between it and the left channel which ran under *Tihara*. Night overtook us before we arrived at the junction of the three branches, and we were obliged to stop opposite to a village on the right bank called *Ramé-ke*. We were separated from our land party, and *Ramé-ke* could furnish no provision for our boatmen and camp-followers. From *Sidhuan* to *Ramé-ke* fourteen kos.

On the following morning, the 13th, we continued our journey, having previously sent on one of the boats at an early hour to purchase provisions. At *Talwandi* we came up with our advanced party; they had been able, with much difficulty, to procure a rupee's worth of *árad* from that village. There is a ferry, but I saw only one boat. After leaving *Talwandi* the river makes a very sudden turn to the right, round a point which we had much difficulty in weathering; and when this was accomplished, our boats drifted to the opposite shore and grounded on the sand-banks. A mile or more beyond this the three branches unite, and from the point of their junction to the ghât of *Miáne* and *Rerú* the river runs in a straight uninterrupted channel, confined by moderately high banks, and presenting in front, as far as the eye could reach, an unbroken surface of water. It is here a fine stream passing by *Punián* where the river is again broken by shoals and sand-banks. The next reach brought us near *Fattehpur*, from whence, leaving *Jháníán* on the left, the deep channel crosses over to the right bank, and in the next sweep to the left under *Maháráj-wála*.

The banks to-day were studded with villages at a distance of a kos, more or less, from the river. Those in the district of *Dharamkot* belong to Mahá-rája RANJIT SINGH, who has a small detachment of cavalry there and a fort; those in the *Fattehgarh* district are held by SHER SINGH BANDEICH, a thanadar under the Mahá-rája, and the rest by Sirdar FATTEH SINGH ALAWALLA. In some the authority is divided, half the village belonging to the *khalsa* and half to the *jághirdár*. They are all small and thinly inhabited.

We stopped at *Maháráj-wála*; estimated distance from *Ramé-ke* ten kos by the river.

This village is in the *Fattehgarh* district, now held by SHER SINGH BANDEICH as thanadar. The lands are *khálisa* (or rent-free). *Fattehgarh* and the neighbouring country formerly belonged to TARA SINGH GHAIBA of *Kang* on the other side. Like most of the Sikh Sirdars, this person rose from an obscure origin to sudden, but, in his case, temporary power. He was originally a common shepherd, and acquired the name of "*Ghaiba*" (or wonderful) in his boyhood, from the circumstance of his having constructed a rude bridge of rope over the river *Weh*, which falls into the *Satluj* below *Andrísá*, and across which he was in the habit of driving his sheep to graze on the opposite bank where the pasture was of a better quality. He joined the camp of the *Lahór* chief, who was just then entering on his career of conquest, as a needy soldier, and after serving a campaign returned laden with spoil which he disposed of in collecting a few followers. With these

he commenced a system of depredations on the country. Many needy adventurers flocked to him, till by degrees he found himself at the head of a formidable band; he then raised the standard of independence, proclaimed himself a Sirdar or chief, and commenced adding to his small patrimony by preying upon the weaker of his neighbors. Village after village submitted to his rule, till, by fraud and force, he became master of a large tract of country on both sides of the river. He had scarcely time, however, to enjoy his good fortune, when the extent of his territory attracted the notice of the *Lahór* chief, who did not long want a pretext to dispossess him. The whole of his ill acquired possessions fell into the hands of the Mahá-rája, by whom *Fattehgarh* was confirmed in *jághir* to HARI SINGH, the same person who had held it under TÁRÁ SINGH GHAIBA. At a subsequent period HARRI SINGH became disaffected toward the *Lahór* chief, and in 1825-26 was one among the Sirdars who openly threw off their allegiance to him, and, in virtue of their possessions on the left bank of the *Satlaj*, claimed the protection of the British Government, whom they wished to acknowledge as lord paramount. The others were Sirdar FATTEH SINGH ALAWALLA, Sirdar CHET SINGH of *Kot Kapara*, and QUTUB-U'-DIN KHA'N KASARIA, the Pathán chief, whose family are now in possession of *Mumdot*. It was not thought expedient to comply with their wishes, and they were directed to return to their allegiance to the Khálsa Jí. Sirdar HARI SINGH dying soon after, the territory of *Fattehgarh* was taken possession of by the *Lahór* chief, and has since continued to be *khálsa* land.

On the 14th we left *Maháraj-wála*. The river pursues a very winding course from this place till it passes between *Mundhiála* on the right and *Wála Káli Raon* on the left hand; from thence it runs in a straight direction past *Asappura Tibbi* and *Pipal* on the right, and *Malha Jungh Lúlu-wála* and *Tibbi Kusainé-wála* on the left. These villages are all small and insignificant, averaging from thirty to sixty mud hovels.

The current to-day was so sluggish and the wind so foul, that where the deep channel ran under high banks we had recourse to the tracking rope. There was too great a depth of water to admit of using the bamboo, and where the banks were unfavorable to tracking we had recourse to the oar. The boatmen only used one at a time, and that alone required the services of more than half the crew; the rest were occupied at the stern oar (which is used for a rudder) in counteracting the efforts of the rowers. We made but little way by these

means, and the boatmen seemed very glad to abandon the oar for the rope where the banks admitted of tracking.

After passing the village of *Pipal* we came in sight of the right bank of the *Beáh* or *Beás*, stretching across the horizon from N. E. to S. W. It is very high, and has a commanding appearance contrasted with the flat country which it overlooks. Before arriving at the junction of the *Beás* and *Satlaj* we passed a small river on our right, near the village of *Andrísá*. This was the *Wenh*: it measured in breadth at the mouth forty yards, but was much narrower a little higher up, and had a depth of 12 feet. The *Wenh* rises in the hills which recede northwards from *Belúspur* at a place called *Ghar Shan-ka*r, and in its course through the *Doáb Bist Jalindar*, passes between *Phagwára* and *Jalindar*; from thence southward to *Dakni ká Sarái*, and south-west to *Nakodir*. From *Nakodir* its direction is west to near *Sultánpur*, when it turns to the south and enters the *Satlaj* below *Andrísá*. The length of its course may be roughly stated at sixty kos; its bed is never quite dry, but it has very little water during the months of January, February, and the early part of March.

The *Beás* joins the *Satlaj* about two kos below *Andrísá*. It has by no means so large a body of water at the junction as the latter river, but its current is stronger and water clearer. The high bank which was visible from *Pipal*, is more than a mile from the present channel. After meeting, the two rivers are split into numerous channels, divided by shoals and sand-banks. The *Satlaj* throws off one large and a number of smaller branches to the left, but its main channel continues its course under the right bank past the ghât of *Hari-ke*, carrying with it the water of the *Beás*. The large branch to the left runs under a high bank past the village of *Bhidan-wála*. The ghât at *Hari-ke* is near three miles below the present junction of the two rivers. The village itself and *chhdóni* are on the top of the high bank at a distance of a mile and a half across the sand from the ghât. RANJIT SINGH has always a party of horse from one to two hundred strong stationed at this place. From the 14th to the 28th December the boats were detained at *Bhidan-wála* in expectation of the arrival of the mission from *Lahór*. During this time I had ample opportunity of judging of the extent of traffic passing by this ghât. Thirty-two boats with three men to each were unceasingly employed from morn to night in transporting loaded hackeries and beasts of burthen of every description across the rivers. I observed little difference on one day from another—it was a scene of constant activity and bustle.

The passage of the ghât generally occupied from fifteen to twenty minutes.

Nearly the whole of the trade of *Affghánistán*, *Kashmír* and the *Panjáb* with *Hindustán*, and by *Bombay* and *Calcutta* with Europe, passes by this ghât. Independent of the foreign trade, it is a great commercial thoroughfare for the interchange of the productions of the countries more immediately on the banks of the river *Satlaj*. The *Mulk Rôhi* from the neighborhood of *Farid koth*, *Ropur koth*, &c. sends by this route the immense quantities of grain which it supplies to *Lahór* and *Amritsir*. Lighter articles, the *búfta* and fine cloth for *pagrís*, manufactured in the *Doáb Bist Jalindar* at *Ráhon*, *Phagwára* and *Hushiarpur*, which are in greater demand in the upper part of *Hindustan*, pass also by this route.

I was unable to ascertain the average amount of daily collections at the ghât, from the circumstance that the duty of great part of the merchandize which passes is not levied till its arrival at *Amritsir*, and merely pays for a *rowána* in crossing the river. It is the same with merchandize coming from *Amritsir*, which is taxed before leaving that place; this refers to the right bank of the river.

The following list, obtained from the ghât munshí, shews the rate of collection on the left bank.

For a camel loaded with grain,	0	5	0
For ditto ditto with salt,	0	5	0
For ditto ditto with <i>qund shakar</i> ,	0	7	6
For ditto ditto with <i>shakartari</i> and first kind of <i>kirana</i> ,	3	0	0
For ditto ditto with cloth,	4	11	0
For a large <i>tári gárl</i> , loaded with any description of articles, except grain,	1	15	0
For a <i>gárl</i> load of grain to merchants,	1	5	9
For ditto to brahmans, to <i>faqirs</i> and <i>bhais</i> ,	0	13	0
For ditto to a maund of coarse <i>kirana</i> ,	0	1	9
For ditto to a maund of <i>pushmina</i> ,	4	1	0
For ditto to a maund of opium and indigo,	2	0	0
For ditto to a donkey load of grain,	0	1	3
For ditto to a bullock or pony load of grain,	0	1	9
For ditto to a <i>gárl</i> load of salt,	1	13	0

At *Jáné-gill*, 12 miles below *Hari-ke*, the united streams of the *Beás* and *Satlaj* are called the *Ghara*, but known to the natives by the name *Nai*. Between *Hari-ke* and *Firozpur* are the ghâts of *Húmad-wála* and *Talle-wála*: the former has twelve, and the latter ten boats. Part of the trade of the *Panjáb* with *Hindustán*, and a small portion of that from *Khorasán* and *Affghánistán* which enters the *Panjáb* at *Dera Ismael Khán*, crosses the *Satlaj* at these ghâts. The roads by which the

trade passes from them and from *Hari-ke* are much infested by robbers. In the immediate vicinity are the Dogrí and Jat zemindars who are notorious for their thieving propensities. From *Hari-ke*, and lower down the river, to *Lahór* and *Amritsir*, the Akalis; and from *Firozpur* and *Hari-ke* to *Ambalah*, the country of the Sodhie Sahebs has to be passed. The merchants engaged in this trade contract with the owners of the camels and *gúrís* for the safe conduct of their goods to their place of destination, and these latter make their own arrangements with the disorderly tribes whose territory they have to pass through; the escort, one of their number, is generally sufficient to ensure safety.

Below *Hari-ke* on the left bank of the river a tract of heavy grass jungle extends for several miles—it is here and there interspersed with the *jhau*; and there are numerous inlets and creeks from the river which insulate great portions of it. The islands thus formed are covered with the thickest jungles; those of the *jhau*, which is strong and elastic, are almost impervious to horsemen, while those covered with grass rising to the height of twelve and fourteen feet, are cut into deep ravines and contain large pitfalls. Tigers are found in these jungles. I went out in pursuit of them with Sirdars RATAN SINGH, GHIRJA RĒA, and a large number of his followers mounted on horseback. The Sirdar gave strict orders to his men not to use their matchlocks, and I anticipated the novel gratification of seeing a tiger attacked and killed sword in hand. The traces of them were innumerable. Every *nala* we crossed presented fresh foot marks; and though not so fortunate as to encounter any, we must have been following close upon them the whole day. The ground is unfavorable to the sport both for horsemen and elephants, owing to the number of *daldals* and quick-sands.

On the 3rd of January at *Firozpur*. The fort which is distant about three miles from the river was built by Sultán FERÓZ III. nephew to the emperor GHÍAS-U'-DIN (TUGHLAK), and who reigned from A. D. 1351 to 1387. It is an irregular building, of no strength, and having little means of defence. The interior is filled up with soil to half the height of the outer walls, and crowded with paltry brick houses and mud hovels separated only by alleys about six feet wide. The present possessor of the fort and adjacent territory is RÁNI LACHMAN KAUR, widow of DHANA SINGH.

NOBÁHU SINGH, the brother of GUJAR SINGH, one of the joint Sikh rulers of *Lahór*, was the first among the Sikhs who conquered and held this territory. From him it descended to his son GUR

BAKHSI SINGH, who added to it large possessions on both sides of the river. On the death of GUR BAKHSI SINGH, his four sons divided the territory between them, and the fort and adjacent lands fell to the share of DHANA SINGH before mentioned. DHANA SINGH dying without male issue, his three surviving brothers put in their claim to the estate, but the widow LACHMAN KAUR referred her cause to the Political Agent at *Ambála*, and it was ultimately decided in her favor by a reference to the Sháster law.

The *Kaggar* river, from which FIROZ SHÁH III. dug a canal to the *Kerah*, is said to have emptied itself into the *Satlaj* near *Firozpur*. We found no trace of it. If the *Kaggar* be understood to be the same river with the *Gaggar* which ran between *Ambála* and *Sarhind*, and afterwards received another river from *Shahabad* and the *Saraswati* from *Thanesar*, there must be some mistake in supposing that it ever joined the *Satlaj* near *Firozpur*. The old course of the *Gaggar* is well known; after reaching the *Bhatnér* frontier it went by the name of *Sótre*, and its direction through the desert to near *Dilawen*, where it was lost in the sands, may be traced by the forts of *Suratgarh*,² *Chehárgarh*, *Phulra 1st*, *Phulra 2nd*, *Mojhgarh*, *Marrath*, *Rukkanpur*, which were built on its banks. This channel has long ago been filled up with sand, and it is only here and there at long intervals that any traces of it remain.

From the 3rd to the 12th of January we were detained at *Firozpur*, surveying the boundary of the Sirdarni's little territory. We found it very ill defined and disputed on every side. Of the country we saw, not more than one-thirtieth part was under cultivation; the rest was either entirely barren or covered with a low straggling brushwood of no value. There was a large tract of *karil* and *jhand* jungle, and I also heard of a forest of *sisu* at some distance, but did not visit the spot to ascertain the fact.

In the *jhand* and *karil* jungles, which I traversed in following the *Firozpur* boundaries, I observed several sites of towns and villages, and a great number of fine *paka* wells, now half filled with rubbish and fallen to decay, but which sufficiently prove that the country was formerly thickly inhabited. It has suffered much from the misrule which has long prevailed. The petty states by which it is surrounded are so promiscuously interwoven in their limits that it would be difficult to point to one among them which is not at variance with all the rest as to its boundaries. To this circumstance must be mainly attributed the immense quantity of waste land which meets the eye in every direction; for no sooner does one party

attempt to reclaim a portion from the desert, than the rest interfere to dispute their right to the soil. As we receded southward from the river, the sand assumed that undulating appearance which is described as characteristic of the skirts of the Indian desert, small mounds occurring at intervals, the soil of which was hard and covered with thorn and brushwood. The wells at a distance from the river were of considerable depth; but the territory, as was once the case, might be made independent of them and fertilized at very little expense. The dry bed of a *nala* called the *Sukrí* traverses it in various directions, and it would only require a canal a mile in length to let into it the waters of the *Satlaj* near *Tihára*.

The zemindars are Jats and Dogres (also a caste of converted Hindus); they are chiefly engaged in pastoral pursuits, rearing large herds of buffaloes, on the sale of the *ghee* and milk of which they depend for subsistence. It is probable they have been driven to this life by the unsettled state of the country, which precludes in a great measure all agricultural employment; it does not appear that they are from remote time a pastoral people. The country, as I before observed, bears marks of having been much more generally cultivated at an earlier period; and though the present race have become addicted to predatory habits, arising from the circumstances of their situation under petty authorities at variance with each other, it would not be difficult, under a better ordered government, to give them a taste for more peaceful and industrious occupations. At present they are miserably low in the scale of civilization, and the feuds existing among them, which are fomented rather than suppressed by their rulers, are not unfrequently the cause of bloodshed. The faith they profess is the Muhammedan, but they are grossly ignorant on the subject of their religion, and do not pay much attention to the outward forms of it. The Korán is little consulted. The elders of the village decide most of their differences, and the parties not abiding by their decision are left to seek their own redress.

In the detection of theft and other offences, the practice of chewing rice and immersing the head under water, and other equally infallible tests, are commonly resorted to. Every species of torture is put in practice by the authorities to obtain forced confessions.

There is little difference observable in the appearance of the peasantry here from the same class in the vicinity of *Lodiana*; but beyond *Firozpur* the Dogre caste are distinguished by a greater swarthinness of complexion and harsher features. They are also more dirty in their dress and persons, and many among them go bare

headed. The Hindu merchants, from the command which they have of money, exercise a preponderating influence in the internal management of the *Firozpur* domain. The ryuts, from their extreme poverty, are forced to mortgage their crops to provide themselves with seed and the necessary implements of husbandry. Money is advanced at an enormous rate of interest, the lowest in the most favorable seasons being half an anna per month for every rupee; but the necessities of the people are such, they are now frequently obliged to pay $1\frac{1}{2}$ anna per month, and compound interest is charged after three months. The cattle and even the ploughs (which resemble those used to the eastward), are the property of merchants. It requires three pairs of bullocks to work a well during twelve hours of the day, and the quantity of ground cultivated is fifty *kacha* bigahs. The poor from the neighboring territories bordering on the desert resort to the banks of the river to cultivate the autumnal crops and earn a bare subsistence, but their attachment to the desert in preference to the climate near the river prevents their settling.

On the afternoon of the 11th we took leave of the Sirdarni and started next morning for *Mamdot*. A mile beyond *Firozpur* the river divides into two branches, the deep channel continuing under the left bank running separate for more than a mile; they again unite, and soon after splitting again unite at a short distance above the ghât of *Bare-ke*. *Bare-ke* is in the direct road from *Firozpur* through *Kasur* to *Lahôr*, from which it is distant thirty kos. It is the nearest point of approach of the *Satlaj* to that city. There are only four boats at the ghât, which is not a very considerable thoroughfare.

The boats here are quite different from those higher up on the *Satlaj*. They are flat-bottomed, but have high sides, and both ends are pointed; they measure about thirty feet in length by ten in breadth, with a depth of two and a half to three feet, and are very strongly built: the waste is partitioned by heavy beams running across, which give strength to the sides. The poop and forecastle are planked. Altogether there is an appearance of lightness and hardness about them which makes them as much surpass the *Ravi* boats as those do the craft in use higher up the *Satlaj*. The mode of propelling them is somewhat the same as sculling. An immense oar is lashed to the stern, the arm of which usually consists of two, or three joined pieces of wood, and is curved in such a manner that the end or handle stretches horizontally over the poop, where one, two, or three persons are placed to work it to and fro. It serves both to propel and direct the boat in its progress.

Near the village of *Kilcha*, where a small *nala* enters the *Satlaj* from the south, we were met by the headman of the Pathán chief of *Mandot*. He was attended by a small party of Pathán horsemen armed with bows and arrows for the chase. They were all equipped and well mounted, and distinguished by a soldierly bearing. They escorted us along the bank, occasionally flying a hawk or discharging an arrow at the black partridge, which their progress through the *jhau* and cultivation disturbed from their hiding places.

The soil on the left bank was a rich loam, the deposit of the river ; when dry it is much split into fissures, and riding over it rendered exceedingly disagreeable, if not dangerous, and where moist it is barely capable of supporting the weight of a horseman.

Between the villages of *Kandi-ke* on the left and *Chawála* on the right bank, we passed another ghât, where there were four boats of the kind last described. The country partially cultivated on both sides, and the river broad and uninterrupted in its channel. After passing *Futtuáwala* we saw no villages near the banks for a distance of five kos, the *jhau* jungle in most places obstructing the view. The river again intersected with sand-banks and banks low.

We halted below *Mandot* ; estimated distance from *Firozpur* $11\frac{1}{4}$ kos.

The fort is distant two miles from the present channel of the river. (In the rainy season the river runs within half a mile of its walls.) It is a square with a round tower at each corner and one in the centre of each face. To the east and west are gateways. The outward walls are of burnt bricks fifty feet high, and ten thick, of *paka* and *kacha*. The interior space is filled up with the soil from the outward moat, and rises to half the height of the walls : the whole is crowded with houses, separated only by narrow alleys barely two yards in width. The towers command an extensive view of the surrounding flat country.

The present possessors of the fort and adjoining territory are a Pathán family, formerly masters of *Kasur* and other large possessions on the opposite side of the river. The old fort, on the side of which the present one was raised, is said to have been built in the time of MUHAMMED SHÁH III. the son of the GHÍAS-U'-DÍN TUGHLAK SHÁH. In the reign of AKBAR and his successors it was attached to the sirkar of *Debálpur* in the Súbah of *Multán*. After the decline of the *Delhi* empire it was destroyed by the Dogre zemindars to prevent its being used as a stronghold by the marauding Seiks ; but soon after, when the *Lahór* province and the greater part of the Báwuní

of *Sarhind* fell into the possession of these adventurers, SOBHÁ SINGH KUAHETA, one of the three joint rulers of *Lahór*, overran the country and bestowed it in *jághir* on one of his followers, KAPU'R SINGH THOGA. This person repaired the fort and held undisputed possession for a long period; he extended his territory as far as the *Baháwalpur* and *Khvi* frontier, but owing to some measures highly offensive to his Mussalman subjects the Dogres, they rose against him and he was compelled to flee for assistance to SOBHÁ SINGH. SOBHÁ SINGH sent a force with him and reinstated him. The Dogres again rebelled and called in RAI AHMED MUNJH to their aid; but it not being in his power to assist them at that time, they were obliged to effect a reconciliation with KAPU'R SINGH, who continued in possession. At a subsequent period RAI AHMED MUNJH expelled KAPU'R SINGH from the country and established himself at *Mamdót*. He razed to the ground the remains of the old fort, and built the present one on its site: it remained the seat of authority under him for upwards of nine years. At his death he was succeeded by his son RAI ILIÁS, on whose death shortly after without issue, the Dogre zemindars, fearing a return of their old enemies the Sikhs, sent a deputation to wait on NIZAM-U'-DIN KHÁN, and QUTUB-U'-DIN KHÁN, the Pathán chiefs of *Kasur*, and to invite them to come and take possession of the fort. Accordingly the retainers of RAI ILIÁS's family were expelled, and QUTUB-U'-DIN KHÁN and his family formally reinstated as their rulers.

NIZAM-U'-DIN KHÁN and QUTUB-U'-DIN KHÁN had been troublesome enemies to Mahá-rája RANJIT SINGH, during the time they held possession of *Kasur*, and had resisted by every means in their power, and by inciting others to resist, the ambitious designs of that chief. He made repeated attacks upon their forts, in all of which he was repulsed; at length, finding force unavailing, he had recourse to other measures, and by bribes and artifices succeeded in sowing dissension in the family of NIZAM-U'-DIN KHÁN, and instilling treachery into the minds of his kinsmen and followers, two of whom basely murdered their chief in his sleep at *Kasur*. His brother QUTUB-U'-DIN, who was absent at the time, returned and surrounded the fort, but failed to secure the traitors. Suspecting all alike, he withdrew his confidence from his own kinsmen and committed the custody of his forts to a family of Syeds. He then entered into negotiations with the ruler of *Lahór*, in the course of which SAIF-U'-DIN SHÁH, one of the Syeds above-mentioned, was won over by the Mahá-rája and betrayed the trust reposed in him by QUTUB-U'-DIN. The Syeds under his orders delivered up to the Mahá-rája's officers all the forts in their custody.

The widow of NIZÁM-U'-DÍN was leagued with the Mahá-rája against QUTUB-U'-DÍN, who, unable to stand his ground, came to the resolution to abandon *Kasur* and his possessions north of the *Satlaj*, and soon after retired to *Mamdot*. There he remained in undisputed possession till the Mahá-rája crossed the river in 1808-9, when, seeing that resistance was useless, he wisely conciliated his enemy by a voluntary submission. The Mahá-rája confirmed him in the possession of *Mamdot* on the usual condition of military service, and he continued to furnish a quota of two hundred horse for the service of the state.

QUTUB-U'-DÍN KHÁN died about a year ago at *Lahór*; he had always been anxious to throw off his allegiance to the Mahá-rája and be taken under the protection of the British Government. In 1826 he openly sought the protection of Captain MURRAY, Political Agent at *Ambála*, but on that occasion was, after some correspondence, directed to return to his allegiance to the *Lahór* Rája.

The present possessor of the *jághír* is JAMÁL-U'-DÍN KHÁN, the son of QUTUB-U'-DÍN KHÁN. He was not at *Mamdot* when the Mission passed, but his younger brother, a fine lad of about fourteen years of age, paid us a visit, which we returned. The interior economy of their establishment showed a thorough disregard of the conveniences of life. Men and horses were indiscriminately huddled together in the different court-yards inside the fort, and of the two the horses were perhaps the better lodged.

Hawking and hunting the deer seem to be the great occupation and business of their lives. At our interview with the young chief, the subject of merchandize on the river happened to be introduced, and some questions were asked as to the relative price of grain at *Mamdot* and lower down the river, at which the whole assembly stared with unfeigned astonishment, and referred us for an answer to our questions to some *baniahs* who were sitting at one corner of the house tops when our interview took place.

The *Mamdot* territory extends upwards of thirty kos along the banks of the river, and varies in breadth from fifteen to seven miles. It has been much improved since it came into the possession of the present family both in its productions and population.

From *Lodiana* to *Mamdot* there is little difference of soil and produce. The ground near the river becomes harder and richer. As you leave *Lodiana* and approach *Firozpur* the light sand disappears. In the autumn are sown *géhun*, *nakhud*, *chola*, *kangani*, *munj*, *barrera*, *massan* and *jo-chana*, which are reaped in the spring, or during April and May. The garden vegetables of that season

are *benghan*, *kire*, *chulai ság*, *tarkakril*, *tarbuze*, *karbuze*, *khurja chaka*. Tobacco is also grown in small quantities. In the spring and as late as June are sown *nai shakar* or sugar-cane, *mákí*, *júar*, *másh*, *mung*, *moth*, *kanjad* or *til*, *bájra*, *pambzúr*; and the vegetables are turnips, carrots, spinach, *sohú*, *gandana* or leek, *gandálon ká ság*, *karam ká ság*, onions. If rain falls plentifully in January, they have an intermediate harvest of coarse rice and other small grains, which is reaped in June. Above the *Mamdot* territory the ground requires much manure to render it productive, but below it commences what is called the *Serab* country, where the overflowings of the river leave a rich deposit, which requires but one turn of the plough to yield a plentiful harvest, and where wells are little used for purposes of agriculture. Gram is not grown in any quantity below *Mamdot*, and the sugar-cane totally disappears.

On the 14th we started from *Mamdot*. The banks of the river in some places higher than we have hitherto anywhere observed them. The land is here irrigated by means of *káhrez* or water-courses; pits are dug close on the banks of the river, and water let into them by channels dug through the banks and raised from them by the Persian wheel.

We passed a few temporary hamlets near the river, but villages were at a distance, and distinguishable only by the clump of trees by which they were surrounded. Opposite the village of *Bábul-ke* was a ghât with two boats.

The *jhau* jungle on both sides of the river high and thick, but parched up. At sun-set we came to on the right bank near the village of *Kagge-ke*, where was a remarkably fine *pipal* tree. Estimated distance from *Mamdot* $1\frac{1}{2}$ kos. Our land party halted at *Mohan-ke* on the left bank, about three kos from the river, as it is said to be a larger place than *Mamdot*.

On the 15th we arrived at *Bagge-ke*, estimated distance by the river 10 kos. Villages at a distance from the banks, which were for the most part covered with *jhau* jungle and the *kana* reed. Now and then a small patch of cultivation intervened.

The channel much intersected by sand-banks: winding in the river inconsiderable. We passed one ghât, at which there were two boats.

On the 16th at *Ladhu-ke*, estimated distance by the river $7\frac{1}{2}$ kos. At the village of *Johad-ke*, the only one close on the banks, there were two boats and a number of the temporary wells or *káhrez* before described. I observed one where the water was conveyed over a sand-bank across the bed of the river for the distance of half a mile,

and was then raised by a well and Persian wheel to a higher bank, over which another channel conducted the water to the permanent banks of the river. Here the same apparatus raised the water to a level with the country to be irrigated.

The river increasing in breadth and more winding than yesterday; the banks occasionally twelve and fourteen feet high, and covered to the water's edge by heavy *jhau* and grass jungle, which are likely to prove embarrassing to boats tracking up the river.

On the 17th we arrived at *Jagveré*, estimated distance $15\frac{1}{2}$ kos. About four kos beyond *Ladhu-ke* we passed the boundary of the *Mamdot* territory opposite to *Kallandir-ke*, and, a kos further on, entered that of Nawáb BAHÁWAL KHÁN, opposite *Rana-watta*. Between these places there is a dense forest of the *jhau* which rises to the height of twenty and more feet, and is almost impenetrable. The zemindars of these parts find it a secure refuge from the oppressive demands of their rulers. The little cultivation they engage in depends much on the course of the river. They have no settled habitations, but wherever the banks of the river afford facility for digging their temporary wells, they erect their hamlets of grass and *kana* reed, and commence cultivating. A slight change in the course of the river often obliges them to remove to a more favorable spot, and it rarely happens that the same people cultivate the same fields for three seasons together.

We passed the ruins of a village, *Watter Shah*, on the right bank, where there was a ghât with two boats. Opposite the village of *Azmut-ke* we were met by the officer in charge of the Khán's frontier district, ULLA BACHAYA, the nephew of the Khán's Vizier, a sufficiently mean-looking personage, and who, in dress and manner, led us to draw no very favorable conclusions as to the style of the *Baháwalpur* court. He was attended by a handful of ill-mounted and dirty-looking horsemen, whose sombre and uncombed appearance formed a striking contrast to the gayer equipments of our Pathán friends.

Winding in the river considerable. In a few places where confined by high banks, we had an uninterrupted deep channel averaging seven hundred yards in breadth.

At *Jagveré* we found Nawáb GHULÁM QÁDIR KHÁN, the mehmándár sent on the part of BAHÁWAL KHÁN to attend us to *Baháwalpur*, and who had been waiting our arrival at this barren spot for the last three months. On the morning of the 18th he paid us a visit, and we were introduced to a corpulent, good-humoured, *baniah*-looking person, whose manners, if not highly polished, were frank and

unaffected. He was richly dressed in cloth of *khimkáb*, with a handsome *lúngí* for a turban, and wore a superb shawl for a *kamarband*; but the whole was in bad taste, and his attendants were as wretchedly shabby and mean as he was fine. The Nawáb spoke a very intelligible Hindustání, but the language of his followers was quite foreign to us. It differs from Hindustání, not so much perhaps radically as in the termination of the words, and the peculiar tone and manner in which it is spoken, which is drawling and nasal, much more disagreeable to the ear than the Panjábí of the bawling Sikhs. We were better pleased with the boatmen of the *Baháwalpur* boats than with any one we saw in this train of our new acquaintances. Their manners contrasted favorably with the rude specimens we brought with us from *Lodiana*. They have much the appearance of a sea-faring people—much of the alacrity and briskness which we admire in our own sailors.

The *Baháwalpur* boats are strongly built, but clumsy. In shape they are square fore and aft; the poop and forecastle are planked, and the former raised very high, so that the person steering is able to look over the *chappared* apartment which is in midship. The rudder is of curious and unhandy build, but has great power. The largest of the boats there measured eighty feet in length and about three feet in depth. They are all furnished with a square sail and masts which strike; and have two oars of immense size, the largest requiring six and seven hands to ply each of them.

On the 19th at *Bunga Jawán-ke*, estimated distance $7\frac{3}{4}$ kos. On starting from *Assap-wála* we were greeted with the novel and pleasing sound of a sailor's cheer from the crews of the *Baháwalpur* boats. Each boat's crew, as their boat left its moorings and dipped oars into the water, gave out a long pealing sound, which was responded to by all the rest in succession. The cry, as near as I could distinguish the words, was "*Bham, Baha al Hai*." (*Baha al Hai* is the name of a patron saint of the boatmen of this country and on the *Indus*.) The boatmen stand to their oars, and every muscle of the body is brought into play in the motions which they go through. When the oars are dipped deep into the water, the outside men are frequently suspended from the handles which they drag down by their weight till the opposite ends or shafts are disengaged from the water. I should say there is more exercise with less fatigue in this than in our method of rowing. The rowers keep good time.

We had to contend against a strong wind, which prevented our making much progress to-day. We passed only two or three villages

on the right bank. We left the district of *Assap-wála* (which begins from *Rana-watta*) and entered that of *Gurjiana* or *Fattehgarh* about four kos before we arrived at *Bunga Jawán-ke*.

The country from *Rana-watta* to *Gurjiana* was formerly taken possession of by LAINA SINGH, one of the joint rulers of *Lahór*. MAHÁRÁJA RANJIT SINGH subsequently took it from CHET SINGH, the son of LAINA SINGH. It was afterwards held by BHAI LÁL SINGH, and taken from him by QUTUB-U'-DIN KHÁN, who annexed it to the *Mamdot* territory. About three years ago, BAHÁWUL KHÁN, called *bará* BAHÁWUL KHÁN, in distinction to the present KHÁN, conquered it from QUTUB-U'-DIN KHÁN, since which time it has remained annexed to the *Baháwalpur* territory.

The country increasing in wildness and the jungles thicker the further we proceed.

On the 20th to *Chine*, estimated distance seven kos. The villages at a distance from the river. On the right bank heavy jungle nearly the whole way. We came down a noble sheet of water to-day, where the river ran without a curve for some miles between moderately high banks.

On the 21st to *Bachian-wála*, estimated distance eight kos. We passed a few temporary hamlets on the river side, but the *jhau* jungle prevailed with little interruption on both banks throughout the journey. The banks high and the channel less intersected by sand-banks than usual. We left the district of *Gurjiana*, and entered that of *Musáferan-wála*, about two kos before we arrived off *Bachian-wála*.

A few bricks of an enormous size were picked up at a village on the way down, (*Bharám-ke*.) They had been taken from some ruins laid open by the river about three months previously. The ruins were described by the villagers as the remains of the wall and turret of a fort sunk more than six feet below the present surface of the surrounding country. They said that the marks remained in the banks where the bricks had been washed away, that by digging other parts of the ruin would be found more perfect. It was determined to visit the place on our return from *Baháwalpur*. The bricks were marked with three curved lines in the shape of a horse-shoe, and from that circumstance referred by the Hindus of our party to the period of the *Treta Yug*.

On the following day, the 22nd, we crossed the river and went to *Pákpattan*, distant about eight miles from our boats and about five from the nearest point of the river. It is approached from a perfectly level and open plain of four miles in extent, and, seen from that distance,

has the appearance of a citadel perched on the summit of a lofty eminence. It is built on the *thae* or site of the ancient fort of *Ajwadin* or *Ajodin*, and is a place of great sanctity, having been the residence for a number of years of the celebrated Mussalman saint Shekh FARID-U'-DIN, to which circumstance it owes its present name of *Pákpatan*, or the ferry of purity. Under its former name of *Ajwadin* it is celebrated as the spot near which the *Satlaj* has been so often passed by Mussalman conquerors in their invasions of *Hindustán*. In A. D. 997 *Ajwadin* was taken and plundered by Sultán NÁSIR-U'-DIN SABACTAGI'N; but accounts vary as to whether he crossed the *Satlaj* in that expedition: in some he is stated to have extended his ravages as far as *Bhatnér*, the capital of the *Bhatti* country. In A. D. 1001, Sultán MAHAMED GHAZNAVI, the renowned son and successor of SABACTAGI'N, forded the *Satlaj* in the vicinity of *Ajwadin* and plundered *Bhatnér*. In his subsequent numerous invasions of *Hindustán* he followed this route more than once.

In A. D. 1079 Sultán IBRÁHIM crossed the *Satlaj* at this point in his second Indian expedition. After the Ghaznian dynasty, Sultán MAHAMED GHORI', called SHAHÁB-U'-DIN, passed by this route and by *Bhatnér* when he took *Asi* (or *Hansi*) in his battles with rája PITHAURA. In A. D. 1397-8 the conqueror AMÍK TIMOUR in his invasion of *Hindustan*, after laying in ruins *Débalpur* and *Ajwadin*, proceeded across the river with part of his forces and destroyed *Bhatnér*, whither the inhabitants of the two former towns had fled for protection.

Close under the town to the north is the dry bed of a river which they call the *Dandi*, propably the *Dond* mentioned by Major RENNELL. Four kos more to the north is another dry bed of a river which they call the *Sohag*; and beyond this about ten kos from *Pákpatan* is the old bed of the *Beás*, which, separating from the *Satlaj* below *Hari-ke*, formerly ran close under *Kasur* and did not again join that river till within twenty miles of *Neh*. In the time of AKBAR, the *Doáb Bist Jalindar* extended to *Hamadpur Dar Behli*, fifteen kos above *Neh*.

To the south of *Pákpatan* in coming from our boats we crossed a *nala* which had a very high bank; its bed was in some places dry, in others it had one and half feet of water. I inquired of the villagers if they had any particular name for it, but they said not; neither did they know any thing about the *Harari Narnay* or *Qoud* mentioned by Major RENNELL. The ground between this *nala* and the *Satlaj* was low, covered with thick jungle of the tamarisk and patches of fine-looking wheat. It is no doubt overflowed in the rainy season, when

the breadth of the river from the bank of this *nala* to the opposite high bank must be more than four miles.

We remained at *Pákpatan* till the 26th, making arrangements for reducing to order the predatory tribes of that neighborhood.

On the 23rd we visited the shrine of Hazrat Shekh FARID SHAKARGANJ* in the town of *Pákpatan*. We had to ascend more than forty feet to the top of the mound on which the town is built. The ground sounded hollow to our horses' hoofs as we threaded through numerous narrow streets and alleys, many of which were lined with miserable objects of charity, among whom here and there might be seen females enveloped in the *burkhá*, pretended descendants of the Prophet, who importuned for alms with a perseverance which we found it difficult to resist. After descending again by a flight of steps to a level with the surrounding country, we were conducted into a small square paved court surrounded by the lofty brick walls of the adjacent houses. In the centre of this stood the *maqbará*, a plain insignificant building, having one small apartment, in which was the grave of the saint covered with faded drapery. There were two doors to this apartment, one to the north and one to the east. That to the east, called the "door of Paradise," is never opened but on the fifth day of the sacred Moharam, when numbers of pilgrims, both Hindus and Mussalmans, come to visit the shrine, and all who pass through this doorway are considered saved from the fines of perdition. The door-way is about two feet wide, and cannot be passed without stooping, and the apartment itself is not capable of containing thirty people crowded together: yet such is the care which the saint takes of his votaries on these occasions, that no accident or loss of life has ever been known to occur. A superlative heaven is allotted to those who are first to enter the tomb on the day mentioned. The rush for precedence may, therefore, be better imagined than described. The crowd of pilgrims is said to be immense, and as they egress from the sacred door-way, after having rubbed their foreheads on the foot of the saint's grave, the air resounds with their shouts of FARID! FARID! Several relics were shewn to us, among which the most curious was, a round flat piece of wood of the size and shape of an Indian's bread or *chapáti*. In the long fasts which the saint imposed on himself, he is said to have solaced his hunger by gnawing this hard substance.

There is a couplet very common throughout the *Panjáb* which has reference to this story.

The ancestors of Shekh FARID-U'-DIN first came to *Multán* in the

* See some account of the same saint by Munshi MOHUN LA'L in the last volume.—ED.

train of BEHRAM SHÁH, of the Ghaznavi family, and continued to fill situations of trust and emolument in that province, until it fell into the hands of Sultán MAHAMED GAURIE, (SHAHÁ'B-U'-DIN.) When Hazrat JALÁ'L-U'-DIN, the father of Shekh FARID, fled to *Cháwe Múshaikh*, a village on the banks of the *Satlaj*, where he lived the life of a hermit, practised great austerities and became celebrated for his great sanctity. At this place Hazrat Shekh FARID-U'-DIN was born; he was sent for his education to *Multán*, and afterwards spent many years in travel. At *Multán* he became celebrated as a *Sáheb Karámat*, or worker of miracles, and many ridiculous stories are told of his performances. Among others it is related that whenever he felt hungry he would throw into his mouth a handful of dust or pebbles which immediately became sugar. He practised similar metamorphoses on the goods of other people, and turned so many things into sugar that he was universally known, and is so to this day, by the affix to his name of *Shakar-ganj*. Hazrat Shekh FARID-U'-DIN SHAKARGANJ and his posterity were chiefly instrumental in converting to Islámism the numerous different tribes of Játs and Gujur or Gickers, descendants of the Rajpút shepherds, who so often fought bravely against the invading armies of the north. The descendants of Báábá Shekh FARID are supposed to have inherited from him the power of performing miracles, and several of them became celebrated throughout *Hindustán* for their sanctity. At *Agra*, *Sikru*, and *Dehli* their shrines witness to the respect in which their memory is held by the Mussalman population. AKBAR SHÁH owed to the prayers, we are told, of one of the family (Shekh NUR-U'-DIN, or NIER-U'-DIN) the birth of his son JEHÁNGIR. In the early attempt of the Sikhs to lay waste the country between *Multán* and *Lahór*, one of the descendants of Shekh FARID-U'-DIN at *Pákpattan* placed himself at the head of a number of converts, Ját peasantry, and kept his ground so well against these marauders that they thought it advisable to come to an amicable arrangement with him; and, in a treaty which he concluded with one of their chiefs, he was allowed to enjoy in independence the revenues of *Pákpattan* and several villages attached to it. At a later period, when the Sikhs became united under one chief, the Shekh-zadas were despoiled of their possessions. The Mahá-rája now allows them one thousand rupees a year for their maintenance, derived from the town duties of *Pákpattan*; besides which, they have a fourth share in four small villages in the neighborhood.

On the 27th to *Toba Sádát*, in the district of *Musá-fran-wála*, estimated distance nine kos.

On the 28th to *Akú-ke*, in the district of *Cúsim-ke*, estimated distance nine kos.

On the 29th to *Dola*, where we entered the district of *Jheddo*, estimated distance seven kos.

On the 30th we passed through the districts of *Jheddo* and *Sháh Farid*, and entered the *Hásilpur* district about two miles before we came to our halting place at noon, estimated distance nine kos.

On the 31st we halted at noon.

On the 1st of February at *Palra*, estimated distance $8\frac{1}{2}$ kos. The face of the country varies little in appearance, being day after day the same succession of tamarisk jungle, the deep green of which is now here and there relieved by a shrub resembling the willow in leaf and color, which the natives call *jhat*, and from the root of which the *miswaks* or tooth-cleaners are commonly made. From *Ránú-watti* near the *Mamdot* and *Baháwalpur* frontier the signs of cultivation gradually disappear; and near *Púkpatan* the country becomes extremely wild; we lose all trace of habitations near the river, save, par hazard, a few temporary grass hamlets. After entering the *Hásilpur* district an improvement is perceptible. We again see the Persian wheel at work, and the banks of the river occasionally lined with a wonder-gazing populace. The canals and water-courses increase in number as we progress onwards. Those we have hitherto seen vary in breadth at their mouths from ten to twenty yards, and are at present dry, being much above the level of the river, but from early in May to the end of September they serve to irrigate the country to the distance in some instances of thirty miles from its banks. Smaller branches are cut in every direction from the main canals, so that the whole country is covered with them, and travelling in that season rendered disagreeable and difficult.

During our journey of the last two or three days we have been pleasingly reminded of having entered a Mussalman country by the strict attention every where paid to the time of prayer. In the open fields, where a minute before the air has resounded with the voice of labour, every thing is suddenly hushed,—the shrieking Persian wheel is at rest, the cattle are freed from the yoke, and the peasants may be seen ranged together in small parties on their mats of the palm tree, going through their forms of devotion with an air of the greatest decorum. The sight struck us from its frequent occurrence.

Of the tribes which inhabit along the banks of the river from *Firozpur* to *Baháwalpur*, those in the neighborhood of *Púkpatan* and below that place, are said to be the most wild and disorderly and the most

addicted to predatory habits. The Dogre and Dogre Badela are chiefly confined to the *Mamdôt* territory and higher up. At *Loadi-ke*, below *Mamdôt* they are succeeded by the *Wattu Karral Chishti* and other branches of the Jat tribes, descendants of the Rajpút shepherds, who formerly inhabited the country on the *Ravi* between *Multán* and *Lahór*. These people still lead a wandering pastoral life, seldom building anything but temporary sheds, and may fairly challenge the name applied to them of "*khána badásh*." They are a race inured to every hardship, ill fed and worse clothed, but capable of enduring great fatigue under every privation. They are much celebrated for the length and rapidity of their journeys on foot in their nightly excursions to carry off cattle from neighboring territories. Nothing in their appearance would indicate their possessing a superior share of physical strength or activity; they are tall spare men, generally ill made, and without any great shew of bone or muscle. If their hardiness of constitution is any where perceptible, it is in their harsh swarthy features, which though not pleasing are manly.

These tribes, even in the best days of the Mogul empire, were never brought into any proper subjection or made to feel the influence of a well-ordered government. They continued embroiled in feuds among themselves, in the settlement of which the arms of authority seldom interposed. A system of *sálahang*, or retaliation, than which nothing can be conceived more productive of crime and general disorder, has prevailed among them from time immemorial. This system authorizes the redressing an injury not only on the person or property of the injurer, but on any of his relations, friends or neighbors whom chance may throw into the power of the injured party; consequently a few disorderly persons have it in their power to involve the whole country in their quarrels. The original cause of their feud is generally a dispute as to the right of pasture, or a few buffaloes may have strayed from the herds of one village to those of another. This leads to reprisals, in which blood is sometimes shed, and blood calls for blood long after the original cause of dispute has ceased to be remembered. If this was the state of affairs when the country on both sides of the river was under one authority, we may judge of what it must be now that the river separates two hostile powers.

The system of *sálahang* which was before confined to villages near each other, now extends along the whole line of the opposite banks of the river. Instead of a few buffaloes stealthily abstracted during the night by ten or twelve herdsmen, villages are now openly attacked and plundered at noon-day by gangs of from one hundred to two

hundred desperate freebooters acting under acknowledged *Sir-kurde*, (leaders.) The river affords them an easy means of escape, and, owing to the existing relations of one of the powers with our Government, prevents their being pursued by the authorities of the opposite side. This security from punishment would of itself be sufficient encouragement to their predatory habits, but they are moreover instigated and abetted by the petty district officers of their own governments, who share in the spoils without incurring any of the danger of their enterprises.

Female infanticide prevails generally among these tribes. Mothers appear to have little affection for their offspring and little respect for their marriage tie, if one may judge by the frequency with which it is violated. A wife leaving the protection of her husband and absconding with another man, is frequently claimed and restored by the intervention of the authorities after an absence of nine or ten years, and any children she may have borne to her paramour in her absence, are equally divided between him and her lawful husband.

On the 2nd February at *Tufiere*, estimated distance $11\frac{1}{2}$ kos. The banks of the river low, and the river perceptibly diminished in breadth. We passed a town on the right bank hidden in a deep and extensive grove of palm trees; the cupola of a mosque peeping through the foliage, and a few solitary palms standing far apart, thrown out from an horizon lighted by a brilliant sunset, reminded us forcibly of Bengal scenery.

The country on the left to-day was more open, the river excessively winding.

On the 3rd to *Durpur* near *Khairpur*, estimated distance $10\frac{1}{2}$ kos. The country on the right was well cultivated and apparently rich, dotted with clumps of the beautiful palm tree, and the banks of the river abounding in temporary wells and water courses;—that on the left was low and barren and covered with a very thin jungle of the tamarisk, the river extremely winding in its course.

Early in the day we were met by SARFARÁZ KHÁN, and at a later hour by MÍR MUHAMMED QÁIM and MUHAMMED DÁIM, native gentlemen of the Khán's household and relations of the Khán's Vizier. One of these gentlemen, although holding the responsible appointment of MÍR Bakhshí, is said to be quite uneducated and ignorant of his letters; but we found him more polished in his manners than the generality of those we had met.

About half way on our journey we passed the road to *Mailsian*, a town on the right bank, the former capital of BAHÁ'WÁL KHÁN's terri-

tory on that side. It once boasted a very strong fort, but from the time this territory was first threatened by the Siekhs it became the policy of the *Baháwalpur* government to destroy all their forts and *garhís*, and this among the rest was razed to the ground.

As we approached *Khairpur* we came in sight of the *Rohi* (or desert), and were for some time quite at a loss to conjecture what object it was which skirted the horizon for many miles. The sand-hills rise abruptly from the plain which intervene between the desert and the river, and from a distance the intervals between them are not perceptible. Seen from our boats, they formed a distinct and well defined outline resembling an unbroken chain of low hills. The *Rohi* runs in the shape of a promontory directly up to the town of *Khairpur*, which is about a mile distant from the present channel of the river: in the rainy season the town only intervenes between the sand of the desert and the waters of the *Satlaj*. When we visited it, we ascended from one of the streets directly on a steep hill of sand and found ourselves fairly in the desert surrounded by sand-hills and the debris of houses, walls and huts more than half buried under them. The desert encroaches on the town every year, and many of the present inhabitants remember the time when *Khairpur* was distant at least two miles from the nearest point of it. The houses are chiefly of unburnt bricks, and the round domes of the mosque are also built of the same material. It is said to be very durable, but the secret of its durability lies more in the paucity of rain which falls in this country. The town has a tolerable bazar, and contains 400 shops of all descriptions; it was formerly a place of considerable traffic, but has fallen off since the time of the great *BAHÁ'WAL KHÁN*. Small *kafilas* occasionally arrive here from *Hánsi* and *Hissár* across the desert, and the tobacco grown in this vicinity and in the *Hásilpur* district is exported by this route in large quantities to *Delhi*, where it is not unfrequently sold as *Multán* tobacco.

The only *paká* building in the town is a large mosque now in ruins: it is ornamented with painted tiles to represent enamel, but too little remains to give any idea of the effect of this style of ornament when in perfect preservation. In the neighborhood are the ruins of several mud forts, formerly the seat of *Dáudputra* chiefs of the Keharani branch of the tribe, who arrived in this country sometime before the Pirjani branch, of which the present *Khán* is the head. They were engaged in constant feuds with the 2nd *BAHÁ'WAL KHÁN*, and made several attempts to subvert his power, but were unsuccessful, and at last forfeited their own possessions in the struggle. The only surviving

member of this family is now a fugitive at the court of the *Bikánir rája*.

The morning of the 4th being a halt, we made a short excursion into the desert with the intention of looking for floricans and antelopes : the former, as well as the leek and bustard, are very numerous where the desert approaches near to the river ; but they are much more frequently put up in the stunted tamarisk bushes which crown the sand hills within the skirts of the desert, than in the tamarisk coppices nearer the river. After crossing the first ridge of sand-hills, the highest of which might measure sixty feet, we came in sight of a level plain of hard soil extremely bare, with only here and there a small mound of shifting sand, and extending for several miles till the eye was arrested by what appeared to be a ridge similar to the one on which we stood. One could have fancied that this tract had recently been usurped from the river by the desert. We learned from the people with us that the whole of it is usually cultivated after a favorable rainy season, when it produces plentiful crops of the smaller kind of grain on which the inhabitants of this country chiefly subsist. Owing to the unusual drought of the last five years, it had remained a waste. The ridge on which we stood was the site of what had been an extensive town now buried many feet under the sand ;—the soil between the sand hillocks was covered with particles of burnt brick, and I was able to trace the ruins of houses for upwards of a mile along the ridge. These have, no doubt, arrested the sand in its progress when it is carried in volumes by the south-west monsoon towards the river, and may account for the high and very abrupt appearance of the skirts of the desert at this point.

After a short walk in the sand, rendered disagreeable by a dreadfully scorching sun, we returned towards our boats. The *Dáudputras* who accompanied us as guides were highly amused at our style of sporting, which they termed *jarida-tor*, and only becoming a *shikari* by profession. We were little less amused at their strange jargon and at the readiness of their sporting equipments. Their weapon is the rifle with the curved stock common throughout *Affghánistán* and the countries west of the *Indus*. The length of the barrel varies, but is never much longer than that of our musket. They have a great contempt for our use of small shot and for small game, which they only pursue with the hawk. The flesh of the hog-deer and antelope is esteemed a great dainty. In pursuit of the latter a *Dáudputran* will take his provisions for three days, mount his camel, and sally forth in the hottest season ; when, to use their own expression, “ to face the

desert is to face death." In these excursions he sometimes remains out as long as five days, wandering about after the tracks of the deer, until his supply of water is exhausted; when, if he has not been successful, he makes for the nearest pool and takes his chance of the deer coming to drink. These pools are not of frequent occurrence in the desert, and none but a person acquainted with every stump bush and hillock, and every feature of the ground, could attempt to go in search of them. That many of the *shikáris* have this intimate knowledge of the desert, is proverbial:—"they know it better than the scholar his book, or the Háfiz his Korán;" and their knowledge is the more astonishing when we consider the narrow and minute observation which it implies. So much do the sand-hills resemble each other, that a common observer might be removed to fifty different stations in the course of the day and fancy every one the same.

The prohibitions to shooting game which are strictly enforced in the Nawáb's preserves and jungles near the river, do not apply to the desert, where the *shikáris* are at liberty to roam at large; and the knowledge they acquire of its localities is highly prized by their chief. They are sometimes lost, but casualties of this kind are attributed to a stroke of the sun, or to exhaustion from want of water, or to the bite of a reptile called the flying-snake, (said to be numerous,) rather than to their losing their way. The stars assist to guide them when, as is often the case, they travel by night.

One of our guides proved himself a good marksman by taking off the head of a carrion kite with a ball from his rifle at fifty yards; he brought the bird up to us and observed that "that was the manner in which his master would serve the káfir Sikhs, if we would allow him to cross the river." The Khán, it would appear, finds it politic to impress his subjects with the idea, that nothing but a fear of the displeasure of the British Government has hitherto prevented his taking steps to recover his lost dominions;—while they on their part assure their chief, that but for this fear they would conquer the country to-morrow, and not leave a light burning from the *Indus* to *Lahór*.

The familiar manner in which our guides spoke of the former possessors of the old forts and gardens about *Khairpur* as we passed through, struck me as highly characteristic of the primitive state of society of the people. Their greatest chiefs they designated by their simple surnames. In speaking of the Khán, they called him simple *BAHÁWAL KHÁN* or *Khañ*, never adding any affix of respect. Every garden or fort we passed had its anecdote of the feuds that had existed between the *Keharani* and *Pirjani* branches of the tribe. Much

was said about the "*baháduri*" of the fallen chiefs, the devoted courage of their adherents, and the time which a few resolute men had kept the second BAHÁWAL KHÁN and his whole army at bay. The knowledge possessed by our guides of these affairs seemed to be intimate; and could I have understood clearly all that they said, I might during our walk have learnt the whole history of the tribe. On their first settlement in the country, the Dáudputras, to add consequence to their name, as well as to increase their power, are said not to have been very scrupulous how they swelled their numbers, and people of all descriptions were admitted into their tribe.

The opinion I formed of the lower orders from what I saw to-day was not very favorable. One cannot be long in their society without being struck with the absence of that urbanity which is so universal among all orders in *Hindustán*. With each other they appear to be on easy terms, using little ceremony. With strangers they are either rough and betray a suspicion and distrust in their manner, or their courteousness is awkward and descends to servility. One of our guides, whose garments would hardly have gained him admittance into any gentleman's gateway, gave me to understand that he was no common person, but one who lived in the Khán's presence. I should not have believed him but for an anecdote which I heard of one of the former chiefs soon after my return to camp, and which was to the effect "that the first BAHÁWAL KHÁN would have given a severe bastinado to any person who had dared to come to his *darbár* in new or clean clothes." The person who related this anecdote to me, lamented the degeneracy of the present ruler, "who has brought himself," said he, "to look upon clean clothes without aversion, and, what is worse, allows his prime minister to ride in a *baili* or a bullock carriage, for which last innovation he will one day be sorely visited."

We remained at *Darpur* on the 5th. This place is pleasantly situated at about half a mile from the present channel of the river. A fine piece of grass turf sprinkled with dwarfish palm extends from it down to the banks of the river. The fort of *Darpur* is still in good preservation, but has not been occupied since the family was dispossessed by the second BAHÁWAL KHÁN. It is of mud and *paká* bricks, in form a square, with turrets at the angles; the outer walls enclose an area of nine hundred square yards. Near the fort are the lines of one of the Khán's disciplined battalions, stationed here under the command of a half-caste Portuguese; their uniform was a blue coat with scarlet facings, flaming scarlet shakos, with brass ornaments. They were drawn out to receive us on the day of our arrival. Evening had

closed in before we arrived, and they burnt blue lights, the effect of which with their salute was good, but so much cannot be said for the stunning noise of their barbarous drums and fifes which accompanied it. The battalion mustered about three hundred firelocks; besides these, there were two small pieces of artillery with a few gulandáz dressed in red *pagris*, brown vests, and blue cossack *paijamas*. They were very cleanly in appearance, and I was told that the whole of the Khán's troops had been newly clothed in anticipation of the arrival of the mission.

On the 6th to *Goth Nur Muhammad*; estimated distance by the river $8\frac{1}{2}$ kos. The *Khairpur* district extended for two-thirds of the way, when we entered that of *Goth Nur Muhammad*. In consequence of the unusual drought of the last four years, and the floods from the river having inclined to the right bank, the districts from *Khairpur* to the eastern frontier now barely pay the expenses of collecting the revenue.

Throughout this extensive tract of country, embracing a length of more than one hundred kos, there are only three officers in authority for the collection of revenue and the preservation of order. One is at *Khairpur*, one at *Goth Qáim Ráís*, twelve miles beyond, and the other moves alternately from *Gurjiána* to *Múbárákpur*, but resides chiefly at the latter place. In harvest time, *mutsaddis* or *muharirs* are dispatched from *Ahmadpur* to collect the revenue in these parts, but they never remain long. So little authority does the Nawáb possess over the districts east of *Múbárákpur*, that he may be said to levy rather an occasional tribute from them than any fixed revenue. The property of the zemindárs consists chiefly of cattle, and is consequently moveable; and as the Nawáb finds it more troublesome than advantageous to be continually sending large forces to overawe them, they frequently escape two or more seasons successively without paying any thing to his treasury, either by crossing to the opposite side of the river, or concealing themselves and their cattle for a time in the large tracts of jungle which every where abound. Once in two or three years a force is sent, when, if the zemindárs refuse to come in and pay their rents, their houses and the little land they cultivate are laid waste, and all their cattle that can be found seized and carried off. They are at liberty to release them on paying what is called the "*trinni*" or tax for pasturage, and the arrears of their tribute in kind. The amount of this varies with the means which the government officers have of enforcing, or the *ryats* of resisting the demand. A tax is also levied from them, commonly designated and known among them as the "theft licence," with a view, perhaps, of eradicat-

ing their propensity to thieving, but which most probably encourages the habit. As it is a tax openly paid by the principal Ráth or Ját zemindárs to the Nawáb, free-booting is in a measure countenanced and rendered honorable by it. The present Nawáb, I am told, has never hitherto visited the country to the east of *Mábúrapur*, from a dislike to trust himself among these tribes.

The river diminishing in breadth and the banks low; country more open on both sides, but still presenting large tracts of heavy *jhau* jungle.

We lost sight of the Desert soon after leaving *Darpur*. The scenery near *Goth Nur Muhammad* is rather pleasing from the number of palm trees in its neighborhood; here also are ruined forts and a few ruins of *paka* bricked houses, the former residence of chiefs of other branches of the *Dáudputra* tribe.

On the 7th to *Dera Baká*, near which the district of *Goth Nur Muhammad* terminates. The villages are more substantial, and the country more open and better cultivated as we proceed. The people also appear to be less rude, and not so scantily clothed as we found them in the frontier district. The revenues are collected regularly and with little trouble.

On the 8th to *Bakarpur*, the ghát opposite to *Baháwalpur*; estimated distance by the river $4\frac{1}{2}$ kos. The river narrowed extremely during the two last days' journey. The banks have become very low and the current sluggish, running about $1\frac{1}{2}$ miles in the hour. The country is well cultivated on both banks of the river, the people are more engaged in agricultural pursuits, and herds of cattle are less numerous than they were above *Khairpur*.

From the 8th to the 25th of February the Mission remained at *Baháwalpur*, employed in negotiation with the Nawáb. The town of *Baháwalpur*, the most populous in the Khán's dominions, is situated about two miles south-east of the present channel of the river; during the floods a branch of the river runs close under its walls and the intervening space, at present a moist sand covered with low straggling *jhau*, is then one sheet of water. At the present season only the beaten tracks to the ghát are passable on horseback and the rest is quagmire. The walls of the town enclose a number of gardens, and from the river the only signs of buildings we could descry through the trees were the minarets of the large mosque. The approach to the town from the river is by a number of narrow lanes separating gardens, in which the bed-mushk, the apple and orange tree, the mulberry, and rose bushes are seen in great profusion. A bridge of

one arch built of burnt bricks conducts over an insignificant moat to the *Multán* gate by which we entered the city. On the day of our visit to the Nawáb, the tops of the houses in the streets were crowded with spectators, who observed a profound silence as we passed: this was so remarkable that I cannot but think particular orders must have been given on the subject, as the same circumstances attracted the notice of the Honorable M. ELPHINSTONE and his party on their passage through *Baháwalpur* in their Mission to *Cábul*. We passed through a long narrow street which forms the principal bazar, and it appeared well inhabited; the other parts of the town betray a decreasing population. Many houses are empty and in ruins. It now contains 2,025 shops of all descriptions. The number of its inhabitants may be estimated at 20,000. The second BAHÁWAL KHÁN always spent some months of the year at this place, but since his death it has been quite deserted by the court, and other causes have not been wanting to account for its diminished importance. Before the Nawáb relinquished his territory on the opposite side of the river, the greatest portion of his revenue, which he receives in kind, was collected here, as also the indigo and rice for exportation. This is no longer the case, and the trade of *Affghánistán* with Central India, to which it chiefly owed its flourishing condition, has both fallen off in quantity, and no longer pursues so exclusively as formerly the route by *Baháwalpur*. The decreasing income of the present Nawáb and his father has compelled them to levy arbitrary contributions from the merchants, who have deserted the place in consequence. The *Amritsar*, *Shikárpur* and *Márwár* mercantile houses have still their agents here, but comparatively little business is transacted between them. A'GÁ RAFFI, a Jew, who had formerly a house at *Derá Ghází Khán*, and is connected with the Jews of *Bokhára* and *Kaub Chand Shikárpurí*, are the most wealthy merchants at the place. *Baháwalpur* still maintains its celebrity for the manufacture of silk cloth or *lungís* and *gulbadans*, which latter are of a superior texture, and more lasting than those of *Amritsar* or *Benares*. The quantity exported is not very great, and chiefly to *Sindh*. Rifle barrels are also made of very superior workmanship both at *Khairpur*, *Baháwalpur* and *Khánpur*, but the handsomest are made only to order, and to be sent in presents to *Sindh*, *Lahór* and other places.

The inhabitants of *Baháwalpur* and of the few other towns in the *Baháwalpur* territory, are chiefly Hindus, and these in appearance the very outcasts of their race, dirty, squalid and miserable. Though they are tolerated in the practice of their religion, and have a high

priest or *gusáin* who enjoys some consideration with the Nawáb, they are looked down upon by their Mussalman fellow subjects with the utmost contempt, and subjected to every kind of oppression. Some few of them enjoy offices of trust near the Nawáb and the other great men of his court, but this they owe to the indolence and ignorance of their masters, which quite unfits them for the tiresome details of business.

On the 25th we again started in our boats from the *Bindra-wála ghát* at *Baháwalpur* to proceed to the junction of the five rivers of the *Panjáb* with the *Indus* at *Mithankot*.

We arrived sometime after nightfall at *Nahur-wálí*; estimated distance from *Baháwalpur* $11\frac{1}{2}$ kos. The banks of the river were exceedingly low almost throughout our journey, and the river still diminishing in size, not measuring more in some places than 150 yards across. The current not averaging $1\frac{1}{2}$ miles an hour. There were numerous sand-banks, and the river, saving that it is deeper, is more insignificant in appearance here than at any part of its course from *Ropur* downwards. The numerous canals which are cut from below *Khairpur* might account for this, but very few of them are fed from the river in the cold weather.

The country on both sides of the river was tolerably open, and cultivation more general, with fewer tracts of the *jhau* jungle. The inhabitants on both sides of the river are chiefly of *Ját* origin, mixed with a few *Dáudputras* and *Baloches*; they are not generally addicted to predatory habits, but the dismemberment of the *Khán's* dominions has involved them in the general disorder which now prevails.

On the 26th to *Mahabatpur*; estimated distance by the river 3 kos. At about two miles from *Nahur-wálí* we came to a heavy *jhau* jungle on the left bank, one of the Nawáb's preserves or hunting seats, where he had proposed that we should take our leave of him. We joined him towards the afternoon, and after witnessing the slaughter of a few hog-deer returned to our boats, with the promise to hunt with him again on the following day.

On the 27th we passed the day in hunting with the Nawáb. The following is a description of his mode of following that pastime.

The jungles in which the game is preserved, are divided and traversed in their whole extent by strong hedges made of twisted boughs of the *jhau* running at acute or at right angles with each other in the form of a funnel, into which the game is driven. The hedges are not made to join at the apex of the triangles, but a space is there left open and cleared of jungle in which the ambuscades are formed.

These ambuscades resemble in their relative positions an inverted funnel, the mouth of which joins that into which the game is driven. The Nawáb occupies the first place in front of the opening; at a short distance behind him, branching out to right and left, are two more ambuscades not far apart; behind these are others farther apart, and so on with the rest, which are so arranged that the sportsmen fire clear of each other. The ambuscades are formed of small hedges of the *jhau* high enough to conceal a person when seated on the ground: in the very high jungles platforms of eight and ten feet high are used for the same purpose.

When the tract of jungle is circular, it is first surrounded by a very high fence of the *jhau*, between which and the jungle a space is left for a road; then from the circumference fences are drawn towards the centre like the radii of a circle; the centre is freed from jungle and left open for the formation of the ambuscades. A number of dogs of all sizes and breeds, and from three to four hundred *sawárs*, according to the extent of line they have to cover, are then sent into the jungles from the outside, and close their ranks as they approach the narrow end of the enclosed space, hooting and shouting to drive the game before them. The Nawáb and his courtiers meanwhile lounge at their ease in their ambuscades. Conversation is carried on, at first freely, but as the beaters draw near, in whispers only. A crackling of the jungle or a waving of the grass is sufficient to put every one on the alert—the hand is instinctively directed towards the trigger, and you are prepared for tiger, deer, hog, or any thing that may make its appearance. The eye is strained to bursting to catch the moment of the beast's leaving the jungle, when, whatever he is, he will assuredly give a spring on finding himself in the open space. At last he bursts cover, and the object of your fond anticipations proves to be nothing more than a jackal; but before you have time to recover from your vexation at having your nerves unstrung by so unworthy a beast, and before you have time to brace them again, the jungle again crackles, the boughs break—you catch a glimpse of something bounding through the grass, and out springs a fine buck deer with his head low and haunches hard pressed by the hounds. He either stops for an instant amazed, or he has passed you before you can raise your gun to your shoulder: in either case you miss. At the report of your gun he stamps the ground in disdain and bounds on to fall a prey to some cooler sportsman among the twenty or thirty who send their balls whizzing after him. The Nawáb has as many as eight or nine rifles loaded and placed before him, and he uses them

so quickly and efficaciously, that unless the game comes very thickly, it is a bad day's sport for those who are permitted only to shoot after him. Dinner is always cooked at his hunting seat and sent out into the jungle for him, and served at noon. Several of his *musáhibs* (courtiers) partake of the meal with him, and inferior fare is distributed to the whole of his attendants. Even down to the *saises* and grass-cutters no man is allowed to remain hungry. After dinner all indulge in a siesta, and then to the sport again. Where the jungle is very extensive and not well enclosed, and the efforts of the horse-men are baffled by the game doubling round them, it is not unusual on a windy day to set fire to it. This is a sight to be witnessed. The sport is very exciting while it lasts, but the pauses during the time spent by the beaters in driving the game towards the ambuscades are tedious. The Nawáb and his minister frequently occupy these intervals in reading the *Korán*.

The Nawáb's hunting seats are mere temporary hamlets, the sides of which are formed of the *kana* reed, and the roofs thatched over with grass. A large enclosure is set apart for the Nawáb himself, which is surrounded with a strong and high fence of the *jhau*, making it quite private. This enclosure varies from two to three hundred yards square; at different angles of it are a place for his *daftar-kháná* or secretaries, a place for his cook-room, and a place for his huntsmen or *shikáris*. He has sometimes an under-room attached to his own bungalow in the rear. In front of the bungalow is a rude *chabutrá*, raised from the ground about two feet, on mud pillars, and covered with an awning or canopy of cloth under which he holds his *darbár* and receives the reports of *shikáris*, who are sent out in all directions to bring tidings of game. In front of the *chabutrá* his horses are picketed. His minister and two or three others of the most consideration about him have separate hamlets prepared for them, but the rest of his followers rough it in the open air. Canvas tents are very little used even by the wealthier classes.

On the 28th we arrived opposite to *Mirpur*; estimated distance by the river 10 kos. As we approached the end of our day's journey the river became broader. There were still fewer tracts of jungle to-day, and the country rich and well cultivated, with many substantial-looking villages on either side.

March the 1st. We arrived at *Makhanbelá*, the ghât opposite to the town of *Uch*; estimated distance by the river 16 kos.

The river increased to-day to a fine broad stream; it was joined by an inlet from the *Chináb* river soon after we left *Mirpur*, and for the

last twelve miles, before its junction with the *Chináb*, it ran in a tolerably straight course, forming a fine body of water. There was one considerable winding near *Shirna Buchri*. The *Chináb* joins the *Ghára* a little above *Makhanbelá*, and these streams run together for a considerable distance without appearing to mix their waters. The line marked by the opposite color of the two streams is very distinct. The red-colored water of the *Chináb* and *Raví* is prized by the people here much above that of the *Ghára*. The Nawáb when residing at *Ahmadpur* or *Diliwar* sends to this ghât for a weekly supply for his household, which is conveyed on hackeries in large brass vessels.

The breadth of the *Panjnád* at *Makhanbelá* in the present season is perhaps under 900 yards, but during the rains it is sometimes six miles across from *Uch* to the opposite side.

The country on the left continued well cultivated and open. On the right we had the dry bed of *Beah* and several creeks of the *Chináb*, forming islands covered with heavy *jhau* jungle and apparently pasture land. Numerous herds of buffaloes were grazing near the bank.

In the afternoon we went to visit *Uch*, from which we were distant about three miles; the road was through a good deal of *jhau* jungle and over the beds of inlets of the river which scarcely supported our horses. The *Uch Bokharian* is situated on the banks of the river, and was formerly the seat of a Hindu principality, which extended to near *Multán*. The town itself was then called *Walhaur*. Towards the latter end of the reign of IBRA'HÍM 1st of the Gaznaví dynasty in 1105, a number of wandering Musalmán devotees took up their abode there, and were tolerated by the ruling prince, Rája SHAM SHÁD, from the apparently harmless austerity of their lives. Among the number of these devotees was Shekh SYED JALÁL, who was gifted with the power of performing miracles, by which many were convinced of the truth of his doctrines.

Rája SHAM SHÁD was one of the first of his converts, and giving up all worldly affairs, he made over his territorial possessions to the Pír for the support of his followers. One or two others also deserve to be mentioned, as they gave their name to the towns now comprehended under the general name of *Uch Bokharian*. Among these was a chief of the tribe of zemindárs called *Lálás*, who inhabited the country in the neighborhood. On the conversion of their chief the *Lálás* followed his example, and on his death built a sepulchre to his memory, round which they formed habitations; hence the *Uch* of *Lálás*, the *Uch* of the Moghuls, and the *Uch* of the Jumals, were also named by the Pír after two of his favorite disciples, who died of the austerities which they practised, and were buried there.

We visited the tomb of the Pír Shekh SYED JALÁL BOKHA'RÍ'. The interior of the building was curious ; the roof was supported by more than thirty arches resting on four colonades of wooden carved pillars ; there were a great many graves and some relics from distant countries. Amongst these were the preserved spinal bones of several saw-fish. The pilgrims who go to *Mecca* from *Affghánistán* and the *Derajat* by passing down the *Indus*, frequently come thus far out of their way from *Mithankot* to visit the shrine of Shekh SYED JALÁL, and implore his intercession for the safety of their journey. A descendant of this Pír is still living at *Uch*, but the lands formerly belonging to the family which enabled them to live in a style of splendour and comparative refinement among a barbarous people, have long since been usurped, first by the *názims* of *Multán*, and since then by the *Dáúdputra* chiefs. They have now barely sufficient for their support ; their influence over the common people is, notwithstanding, very considerable, and they are generally respected.

From *Uch Bhokhárian* we proceeded to the *Uch* of the *Gilanís*, which appears to have been formerly joined to it, but is now distant about half a mile ; on our way we passed through large topes of date trees. Hazrat Shekh MUHAMMAD GHOS JILÁ'NÍ', round whose shrine this town was built, and after whom it was named, was descended from Hazrat Shekh ABDUL QÁDIR JILÁ'NÍ' BAGHDÁDÍ', and came to *Uch* about the year A. D. 1394. The *Dáúdputras* have continued to be his *murids* and the *murids* of his successors from the time of their first leaving *Shikárpur*.

This Pír's family had considerable assignments of lands in the vicinity of *Uch* before the arrival in the country of the *Dáúdputras*, and up to the time of the 2nd BAHÁ'WAL KHÁN their territory and wealth had continued increasing, and MAKDUM GANG BUKSH, who was then the Pír Múrshid, was second only in influence to the Khán, and kept in his pay a considerable standing force ; he built a fort at *Uch* and surrounded the town with a wall. His son, also named MAKDUM GANG BAKSH, headed a revolt of the *Dáúdputra* tribes against the second BAHÁ'WAL KHA'N in 1799, and releasing BAHÁ'WAL KHA'N's son, MUBÁRAK KHA'N, from confinement, set him in opposition to his father. The Khán besieged him in the town of *Uch*, destroyed the fort, and laid the town in ruins, and obliged the Pír with his son to flee to the territory of the Amírs of *Sindh*. The lands belonging to the Pír's family were on that occasion forfeited to the state, and have never been restored. A few years since a grandson of this Pír returned from the *Sindh* country to take up his abode at *Uch*, and six or eight wells have been allowed by the present Khán for his subsistence.

On the 2nd March to opposite *Núrwalá*; estimated distance 10 kos. We came to on the right bank of the river about three miles below *Sitpur*, and went in the afternoon to see that town. It is surrounded by an extensive grove of palm trees, and is celebrated for its dates and mangoes, which it produces in great abundance. The site is very elevated, and its name indicates its having formerly been a Hindu town. The old buildings are all of burnt brick and lofty, the streets dreadfully narrow and filthy, the country round it is pretty, but must be very unhealthy during the hot months, when it is entirely overflowed, leaving no means of communication saving by boats. It was formerly thickly inhabited, but now the half of the houses are in ruins, and it may have about 200 shops of all descriptions. The inhabitants of the town are chiefly Hindus,—those of the country, round, *Játs* and *Beloches*. Cattle are numerous, and the *zemindars*, both *Játs* and *Beloches*, predatory in their habits. *Sitpur* is said to have been formerly on the right bank of the main stream of the *Indus* which fell into the *Panjnád* immediately above it: it is now about 10 miles on the left side of the main stream, but during the hot weather the whole intervening space is one sheet of water. It is recorded that *qásids*, messengers with letters, were formerly in the habit of leaving *Multán* or *Derá Ghází Khán* in the morning, mounted on an inflated oxhide, and reaching *Sitpur* and *Ouch* by the rivers *Chináb* and *Indus* at noon. This mode of conveying letters is still sometimes adopted between *Derá Ghází Khán* and *Shikárpur*, and during the height of the floods is very expeditious.

On the 3rd to *Cháván*; estimated distance 12 kos. The country on both sides appeared very rich, but without any great variety of foliage.

On the 4th we arrived at *Mithankot* on the right bank of the *Indus*; estimated distance 10 kos. The rapidity of the current increased very much as we approached the junction of the two rivers. The *Panjnád* all the way from *Ouch* is a beautiful stream, and, with the exception of one or two windings, runs straight to the south-west. On the 7th of March the Mission left *Mithankot* to return by a new route through the *Panjáb* to *Lodiana*. The boats were left under my charge to prepare for their return voyage up the river, with the exception of those belonging to the *Lodiana* merchants, which continued their voyage to *Shikárpur*.

From Lodiana to Baháwalpur by the rivers Satlaj and Ghara.

Villages on the left bank.

[illegible]

N. B.—R. S. stands for Ranjit Sing. F. S. A. for Fateh Sing Aluwála. K. S. B. for Kotsháh Bundh-ke. J. R. for Jindh Rájá. M. R. K. for Mai Rúpén Kákar. D. for Dharmkot.

Length of Stages and date.	Names of Villages.	Distance Kos.		Caste.	Jurisdiction.	Length of Stages and date.	Names of Villages.	Distance Kos.		Caste.	Jurisdiction.
		Apart.	Inland					Apart.	Inland		
	Pattú	$\frac{1}{4}$	$\frac{1}{4}$	Ját.	K. S. B.		Mattar Ba	$\frac{1}{4}$	$\frac{1}{4}$	Dogre,	Mamdot.
	Talwandí, ..	$\frac{1}{4}$	$\frac{1}{4}$	ditto, ..	D.		bul-ke,	$\frac{1}{4}$	$\frac{1}{4}$	ditto, ..	ditto.
	Bern,	1	$\frac{1}{4}$	ditto, ..	Loian.		Madu-ke, ..	$\frac{1}{4}$	$\frac{1}{4}$	ditto, ..	ditto.
	Pune-án,	$\frac{1}{4}$	$\frac{1}{4}$	ditto, ..	ditto.		Baje-ke,	$\frac{1}{4}$	$\frac{1}{4}$	ditto, ..	ditto.
	Jaggúpúra,	$\frac{1}{4}$	$\frac{1}{4}$	Ráin, ..	ditto.		Mahitam, ..	$\frac{1}{4}$	$\frac{1}{4}$	Mahitam	ditto.
	Kau-álpúra,	$\frac{1}{4}$	$\frac{1}{4}$	Ját San-	ditto.		Baje-ke 2nd,	1	$\frac{1}{4}$	Dogre,	ditto.
				du,			Dulla Mohan-				
	Kákar,	1	$\frac{1}{4}$	Ját Ká-			ke,	1	2	ditto, ..	ditto.
				kar, ..	K. K. S.						
	Kang,	1	$\frac{1}{4}$	Ját			<i>Village on the right bank.</i>				
				Kang,	K. S. W.		Andresa, ...	1	1	Ját,	F. S. A.
	Kusalghur,	1	$\frac{1}{4}$	ditto, ..	ditto.		Singhi-ke, ..	1	$\frac{1}{4}$	ditto, ..	ditto.
	Mandi,	2	$\frac{1}{4}$	Ját Dha-			Chamba, ...	$\frac{1}{4}$	$\frac{1}{4}$	ditto, ..	A.-ka.
				ware, ..	L.		Kamboh, ..	$\frac{1}{4}$	$\frac{1}{4}$	ditto, ..	ditto.
	Mandhiála,	$\frac{1}{4}$	$\frac{1}{4}$	Ját,	ditto. ..		Kirrian,	$\frac{1}{4}$	$\frac{1}{4}$	ditto, ..	ditto.
	Usafpura, ..	$\frac{1}{4}$	$\frac{1}{4}$	ditto, ..	R. S. S.		Harri-ke Pat-	$\frac{1}{4}$	$\frac{1}{4}$	tan,	
	Tibbi,	1	$\frac{1}{4}$	Ráin, ..	F. S. A.		Talli,	1	$\frac{1}{4}$	Asul Ját,	Kasúr.
	Pippal,	2	$\frac{1}{4}$	ditto, ..	A.		Gandhár				
	Nakki,	1	$\frac{1}{4}$	Ját,	F. S. A.		Singhwála,	$\frac{1}{4}$	$\frac{1}{4}$	Mixed,	ditto.
							Fattú-kewá-				
	<i>Villages on the left bank.</i>						lál, ..	1	1	Ráin, ..	ditto.
	Mannúwálá,	1	$\frac{1}{4}$	Machí,	F. S. A.		Kujian,	$\frac{1}{4}$	$\frac{1}{4}$	ditto, ..	ditto.
	Rúknewálá,	$\frac{1}{4}$	$\frac{1}{4}$	Naipál,	ditto.		Chúrí wálá,	1	$\frac{1}{4}$	ditto, ..	ditto.
	Singhi-ke, ..	1	$\frac{1}{4}$	ditto, ..	ditto.		Fatú wálá, ..	$\frac{1}{4}$	$\frac{1}{4}$	Dogre,	ditto.
	Jhínd,	1	$\frac{1}{4}$	ditto, ..	ditto.		Kilcha,	1	1	Bhatti	
	Bhedá wálá,	1	$\frac{1}{4}$	Do. Mul-						Rájput,	ditto.
				lál,	ditto.		Sultán Chu-	$\frac{1}{4}$	$\frac{1}{4}$	Ját Chi-	
				Dogre			na,	1	1	na,	ditto.
	Kilchá Golám	$\frac{1}{4}$	$\frac{1}{4}$	Bah-			Mathian wálá	1	$\frac{1}{4}$	Dogre,	ditto.
	Husen wálá,	$\frac{1}{4}$	$\frac{1}{4}$	loche, ..	F.		Wásti Seide-	$\frac{1}{4}$	$\frac{1}{4}$	Ráin, ..	ditto.
	Báre-ke, ...	1	2	ditto, ..	F. D. K.		ke,	1	$\frac{1}{4}$	ditto, ..	ditto.
							Sheik Himál,	$\frac{1}{4}$	$\frac{1}{4}$		
	Kilcha,	2	$\frac{1}{4}$	ditto, ..	Mamdot.		Bahek Bodle-	$\frac{1}{4}$	$\frac{1}{4}$	Boddle,	ditto.
	Kande ke, ...	$\frac{1}{4}$	$\frac{1}{4}$	Dogre			ke,	1	$\frac{1}{4}$		
				Bah-			Wásti Patrí-	$\frac{1}{4}$	$\frac{1}{4}$	Ját, ..	ditto.
				loche, ..	ditto.		ke,	1	$\frac{1}{4}$	Ráin, ..	ditto.
	Kande ke	1	$\frac{1}{4}$	ditto, ..	ditto.		Ratniá wálá,	$\frac{1}{4}$	$\frac{1}{4}$		
	2nd,	1	$\frac{1}{4}$	ditto, ..	ditto.		Thulti Jos-	$\frac{1}{4}$	$\frac{1}{4}$	Dogre,	ditto.
	Bahak Bodle	1	$\frac{1}{4}$	Bodle			ke,	2	$\frac{1}{4}$	ditto, ..	Khudian
	Khudá,	1	$\frac{1}{4}$	Bodle			Doburji, ...	$\frac{1}{4}$	$\frac{1}{4}$	ditto, ..	ditto.
	Bakhsh	1	$\frac{1}{4}$	Faqír,	ditto.		Pattar ke, ..	$\frac{1}{4}$	$\frac{1}{4}$	ditto, ..	ditto.
	Khán-ke...	1	$\frac{1}{4}$				Sahite ke, ..	$\frac{1}{4}$	$\frac{1}{4}$	ditto, ..	ditto.
	Farid Khán	1	$\frac{1}{4}$	Kahur			Khimi Jallú-	$\frac{1}{4}$	$\frac{1}{4}$	ditto, ..	Mahmke
	wálá,	1	$\frac{1}{4}$	Patton,	ditto.		ke,	1	$\frac{1}{4}$	ditto, ..	ditto.
				Dogre, ..	ditto.		Pirá Jallu-ke	$\frac{1}{4}$	$\frac{1}{4}$	ditto, ..	ditto.
	Rahmuke, ..	$\frac{1}{4}$	$\frac{1}{4}$	ditto, ..	ditto.		Dhing-ke, ..	1	$\frac{1}{4}$	ditto, ..	ditto.
	Lakmir-ke, ..	$\frac{1}{4}$	$\frac{1}{4}$	ditto, ..	ditto.		Mujahna-ke,	$\frac{1}{4}$	$\frac{1}{4}$	ditto, ..	ditto.
	Mamdot, ..	1	$\frac{1}{4}$	Mixed			Dhurji,	1	$\frac{1}{4}$	ditto, ..	ditto.
				Cast, ..	ditto.						
				Dogre, ..	ditto.		<i>Villages on the left bank.</i>				
	Vehre,	$\frac{1}{4}$	$\frac{1}{4}$				11½ Wásti Lakhí-	$\frac{1}{4}$	$\frac{1}{4}$		
	Wásti Kheire	$\frac{1}{4}$	$\frac{1}{4}$	ditto, ..	ditto.		kos. Mohan-ke	2	$\frac{1}{4}$	Dogre,	Mamdot.
	ke,	$\frac{1}{4}$	$\frac{1}{4}$	ditto, ..	ditto.		Mohan-ke, ..	3	$\frac{1}{4}$	ditto, ..	ditto.
	Wásti Muja-	$\frac{1}{4}$	$\frac{1}{4}$	ditto, ..	ditto.		Khuggé-ke, ..	2	$\frac{1}{4}$	ditto, ..	ditto.
	had-ke, ..	$\frac{1}{4}$	$\frac{1}{4}$	Máhtam,	ditto.		Dhun-ke, ..	2	$\frac{1}{4}$	Ját,	ditto.
	Mátam,	$\frac{1}{4}$	$\frac{1}{4}$	Dogre, ..	ditto.						
	Bodalwálá, ..	$\frac{1}{4}$	$\frac{1}{4}$								

N. B.—K. S. B. for Kárák Singh Budulep. K. K. S., for Khuwar Karak Singh, R. S. S. for Rája Seochet Singh. A. for Akhalian. F. for Firozpur. K. S. W. Karri Singh's widow. F. D. K. for Fateh Diakhan's jágir.

Length of Stages and date.	Names of Villages.	Distance Kos.		Caste.	Jurisdiction.	Length of Stages and date.	Names of Villages.	Distance Kos.		Caste.	Jurisdiction.	
		Apart.	Inland					Apart.	Inland			
9½ kos.	Foje-ke,	1	1½	Dogre,	Mamdot	16th	Kari,	1	1	Dogre	K.	
	Rukna Bo-	1	1½	Bodelá	ditto.		Mahitum, ..	1	1	Kara,	Mahi-	
	dela,	1	1½	ditto, ..	ditto.		Shá'h báz-ke,	1	1	tam, ..	ditto.	
	Shekh Bo-	1	1½	ditto, ..	ditto.		Sandar-ke, ..	1	1	Dogre,	ditto.	
	dela,	1	1	Bodela,	ditto.		Jada Vazed-	1	1	Wattú,	A. D -ke	
	Rulla Keire-	1	1	ditto, ..	ditto.		ke,	1	1	ditto, ..	ditto.	
	Rehma	1	1	Dogre,	ditto.		Bagge,	2	2	Jairil	Jái, ..	
	Kheire-ke, ..	1	1	ditto, ..	ditto.		Vazid-ke, ..	1	2	Wattú,	ditto.	
	Dulle-ke, ..	1	1	ditto, ..	ditto.		Khewah Va-	1	1½	ditto, ..	ditto.	
	Middha,	1	1	ditto, ..	ditto.		zid-ke,	1	1½	ditto, ..	ditto.	
	Pi e-ke,	1	1	ditto, ..	ditto.		Gujar Va-	1	1½	ditto, ..	ditto.	
	Dh andhi, ..	1	1	ditto, ..	ditto.		zid-ke, ..	1	1½	ditto, ..	ditto.	
	Shabaz-ke, ..	1	1	ditto, ..	ditto.		Pahulwan	1	1	Wattú,	Atari.	
	Bagghe-ke, ..	1	1	ditto, ..	ditto.		Lado-ke, ..	1	1	ditto, ..	Dhunian	
7½ kos.	Sadar Alam-	1	1	ditto, ..	ditto.	17th	Wásti Lakhe-	1	1	ditto, ..	ditto.	
	ka,	1	1	ditto, ..	ditto.		ke,	1	1	ditto, ..	ditto.	
	Kári Bagge-	1	1	ditto, ..	ditto.		Wásti Bhike-	1	1	ditto, ..	ditto.	
	ke,	1	1	ditto, ..	ditto.		<i>Villages on the left bank.</i>					
	Luddú-ke, ..	1	1	ditto, ..	ditto.		Gagan-ke, ..	2	1	Joyiá ..	A.	
	Lammochur,	1	1	ditto, ..	ditto.		Súhán-ke, ..	1	2	Wattú,	ditto.	
	Keah,	1	1	ditto, ..	ditto.		Mohamad-ke,	1	2	ditto, ..	ditto.	
	Bahak Mo-	1	1	ditto, ..	ditto.		Kándar-ke, ..	1	1	Karral,	ditto.	
	han ke,	1	1	ditto, ..	ditto.		Asafwálá, ..	1	1	Chis i,	D. U.	
	Bahak Ja-	1	1	ditto, ..	ditto.		Jagve-ke,	1	1	Wattú,	A.	
	nál-ke,	1	1	ditto, ..	ditto.		Lakhe-ke, ..	1	1	Bhatti	Faqirs,	
	Bahak Sak-	1	1	ditto, ..	ditto.		Amru-ke, ..	1	1	Wattus,	ditto.	
	ke-ke,	1	1	ditto, ..	ditto.		Bare-ke,	1	1	ditto, ..	ditto.	
	Lado-ke, ..	1	1	ditto, ..	ditto.		Peropi,	1	1	Karrol,	F.	
15 kos.	Bahak Lash-	1	1	ditto, ..	ditto.	20th	Gungá Jú-	1	1	Pathán,	G.	
	kar,	1	1	ditto, ..	ditto.		van-ka,	3	3	Bodle, ..	Gúrjianá	
	Bodle-ke, ..	1	1	ditto, ..	ditto.		Bahak Qa-	1	1	ditto, ..	ditto.	
	Bahak Kal-	1	1	ditto, ..	ditto.		landar, ..	1	1	ditto, ..	ditto.	
	landar-ke, ..	1	1	ditto, ..	ditto.		Bodle-ke, ..	1	1	ditto, ..	ditto.	
	Rana Waltu,	1	1	ditto, ..	ditto.		Buhak Ta-	1	1	ditto, ..	ditto.	
	<i>Villages on the right bank.</i>						wakkul,	1	1	ditto, ..	ditto.	
	Bahnl-ke, ..	1	1	Dogre,	M.-ke.		Bodle-ke, ..	1	1	ditto, ..	ditto.	
	Mahmun-ke,	1	1	ditto, ..	D. U.		Gaddho-ke,	1	1	Wattú,	ditto.	
	Khugge-ke, ..	1	1	ditto, ..	ditto.		Ratto-ke, ..	1	1	ditto, ..	ditto.	
	Jhuggian, ..	1	1	Bodla, ..	M.-ke.		Chuni,	1	1	Chuni,	ditto.	
	Pa j Girain,	1	1	Dogre,	ditto.		Rehmú-ke, ..	1	1	Wattú,	ditto.	
	Lakke-ke, ..	1	1	Faqir	K.		Kálu-ke, ..	1	1	ditto, ..	ditto.	
	Ajebwálá,	1	1	Mokul	Ját, ..		Jassu-ke, ..	1	1	ditto, ..	ditto.	
15 kos.	Bhalil-ke, ..	1	1	Bhambá	Dogre, ditto.	21st	Shurf Ali	1	1	Seyad,	ditto.	
	Sarwan-ke, ..	1	1	Bhambá	ditto.		Sháh,	1	1	Wattú,	ditto.	
	Khanne-ke, ..	1	1	Bhugge-	ke Do-		Bharam-ke, ..	1	1	ditto, ..	M. W.	
	Khane-ke	1	1	gre, ..	ditto.		Mari,	1	1	ditto, ..	ditto.	
	2nd,	1	1	ditto, ..	ditto.		Bachianwálá,	1	1	ditto, ..	ditto.	
	Pira-ke,	1	1	ditto, ..	ditto.		Jewaya Be-	1	1	Beloch,	ditto.	
	Nur Moha-	1	1	Rupal	Dogre, ditto.		loch,	1	1	Wattú,	ditto.	
	mad,	1	1	Dogre,	ditto.		Habib-ke, ..	1	1	ditto, ..	ditto.	
		1	1	Dogre,	ditto.		Chakko-ke, ..	1	1	ditto, ..	ditto.	
		1	1	Dogre,	ditto.			1	1	ditto, ..	ditto.	
		1	1	Dogre,	ditto.			1	1	ditto, ..	ditto.	
		1	1	Dogre,	ditto.			1	1	ditto, ..	ditto.	
		1	1	Dogre,	ditto.			1	1	ditto, ..	ditto.	
		1	1	Dogre,	ditto.			1	1	ditto, ..	ditto.	

N. B.—K. B. stands for Killa Bumwálá. A. for Asafwálá. M.-ke for Mahm-ke. D. V. for Dórní Umal. K. for Kangpur. A. D. K. for Atari Dhundhia-ke. F. for Fattehghar. G. for Gurjorianá. M. W. Musáfrau wálá.

Length of Stages and date.	Names of Villages.	Distance kos.		Caste.	Jurisdiction.	Length of Stages and date.	Names of Villages.	Distance kos.		Caste.	Jurisdiction.
		Apart.	Inland					Apart.	Inland		
Villages on the right bank.											
9½ kos. 28th 9 kos.	Wásti Az- mat-ke,....	1	1	Wattú, C.		29th 10½ kos.	Pír Sikandar, Aku-ke,...	1	1	Chishtí, Q-ke.	
	Walli Sháh, Feje-ke,....	1	1	Bodle, ditto.			1½	1	Sullieré, ditto.		
	Mahar, ...	3½	1	Téji Ját, M-ke.			1	1	Nihal-ke, .. ditto.		
	Thakkar, ...	2	1	Mahar, ditto.			1	1	Bahádur-ke, ditto.		
	Thakkar 2nd, Wásti Ban- de-ke,	2	2	Wattú, ditto.			1	1	Husain-ke, ditto.		
	Kakke, ...	1	2	ditto, .. ditto.			1	1	Ballú-ke, .. ditto.		
	Wásti Khajú- ke,.....	2½	1	ditto, .. ditto,			1	1	Mulki, ditto.		
	Wásti Dari- ke,.....	1	1	ditto, .. L. W. H.			1	1	Johad-ke, .. ditto.		
	Durraj-ke,...	3	1	Karral, ditto.			1	1	Muslie, do. Mus-		
	Bodle,.....	2	2	Bodle, .. ditto.			1	1	Fattáhna... li,.... ditto.		
	Zinde-ke, ..	2	2	Karral, L-ke.			1	1	Dáudpo- tra, .. ditto.		
	Mauni-ke, ..	3	2	Wattú, ditto.			1	1	Ditto, Futtah- nu, .. ditto.		
	Mahlú-ke, ..	3	1	ditto, .. Havelí.			1	1	Jaddi-ke, .. Jaddi		
	Kale-ke,....	1	1	ditto, .. ditto.			1	1	Vazid Sháh, Ját, .. ditto.		
	Malli-ke, ..	2	1	ditto, .. P. P.			1	1	Dulla, Khuggi, ditto.		
	Malli-ke 2nd,	2½	1	ditto, .. ditto.		1	1	Ráin, .. Jhada.			
	Chakkú-ke, ..	1½	1	ditto, .. ditto.		Villages on the right bank.					
	Ahalu-ke, ..	2	1	ditto, .. ditto.		Mári,	1½	1½	Chishtí, K. K-ke.		
	Mahmú-ke, ..	1½	1	ditto, .. K. K.		Munar,	2	1	ditto, .. ditto.		
	Malkani, ..	1½	1	ditto, .. K. K-ke.		Bhúláuí, ...	2	1½	Joyie, .. B. T-ke		
	Packa Bira- ham-ka, ..	2½	1	ditto, .. ditto.					Qilla.		
	Villages on the left bank.						Mavánkot,...	3	1	Kulachi, ditto.	
	9½ kos. 28th 9 kos.	Husain Sháh,	1	1½	Sayad, .. M.		Núrá,	2	1½	Sayad, ditto.	
		Lalle-ke, ..	1	..	Joyie of		Feroza, ...	1	2	Sullwu, ditto.	
		Bahádur-ke,	2	1	Mari, ditto.		Tibhi Khán- wala,.....	3	2	Langah, ditto.	
		Chave-ke	2	1	ditto, .. ditto.		Lakho-ke, ..	5	..	Sullieré, K. K-ke.	
		Gúzar, ...	1	1	ditto, .. ditto.		Ditto 2nd, ..	2	..	ditto, .. ditto.	
		Tohah,	1½	1	Sayad, .. ditto.		Lakhu-ke, ..	1	..	ditto, .. ditto.	
		Bhaura,	1	1	Udhieré, ditto.		Julyeri, ...	1	..	ditto, .. B-ke.	
Jhandu		1	1	do. Wat- ditto.		Saho-ke. ..	3	..	ditto, .. ditto.		
Khán, ..		1	1	tú, ditto.		Villages on the left bank.					
Jahán Khán,		1	1	Ahneri, ditto.		Wásti Maul- vi-ke,	1	1	Rain .. Jhadú.		
Sher Maha- mad,		1	1	Udhuri, ditto.		Bungá Jiwan,	1	1	ditto, .. ditto.		
Sháh ud din,		1	1	Bodla, .. ditto.		Wásti Jiwan,	1	1	Joyie, .. ditto.		
Tugieri,		1½	1	Udhieré, ditto.		Kalú Sháh,	2	1	Sayad, ditto.		
Kot Qáim		1	1	ditto, .. ditto.		Núr Sháh, ..	2	1	ditto, .. ditto.		
Khán, ...		1	1	Lungah, Q-ke.		Wásti Umar	1	1	ditto, .. ditto.		
Mari Babul- ke,.....		1	1	Karral, ditto.		Beloch-ke, ..	1	1	ditto, .. ditto.		
Bunga Jánu- ka,.....		1	1	Pathán, ditto.		Kora Bhútna	1	1½	Bhutna, ditto.		
Bunga Rami- ka,.....		1	1	ditto, .. ditto.		Jáfar Sháh,	1	3	Sayad, S. F.		
Masta-ke, ..		1	1	Sullieré, ditto.		Shahar Suk- ka,.....	1	2	Luckou- ri, ditto.		
						Wásti Sial- ke,.....	1	2	Sial, .. ditto.		
						Gúl Sháh, ..	1	1	Sayad, H.		
						Nuni,	1	1	Nuni, .. ditto.		
						Korá Sháh,	3	1	Sayad, ditto.		
						Feb. 1st. Mojh Mahar,	1	1	Luch- veri, .. ditto.		

N. B.—C. for Chinan. M-ke for Maruf-ke. L. W. H. for Lukhe Wattú-ke. Haveli. L-ke for Lukhe-ke. P. P. for Pak Pattan. K. K. for Kot Kapúrá. K. K-ke for Kot Kabúle-ke. M. for Músáflow wálá. Q-ke for Qásim-ke. B. T-ke for Baháwalgarh Tibbi-ke Qilla. B-ke for Baddura-ke. S. F. for Shahur Farid. H. for Hásilpur.

Length of Stages and date.	Names of Villages.	Distance kos.		Caste.	Jurisdiction.	Length of Stages and date.	Names of Villages.	Distance kos.		Caste.	Jurisdiction.	
		Apart.	Inland					Apart.	Inland			
8½ kos.	Mehrabpur,	¾	¾	Luch- veri, .	H.	3rd	Villages on the left bank.					
	Kallar-wah,	¾	1	ditto, ..	ditto.		Sirdárpur, ..	2	2	Joyce,...	Tufuri.	
	Boland Sháh,	1½	¾	Bodle, ..	ditto.		Joyce,.....	1	1	ditto, ..	ditto.	
	Sháh Hattie,	¾	1	Dáudpo- tra, ..	ditto.		Lál-ke Jok,	1	..	ditto, ..	ditto.	
	Kore Sháh,	1	¾	Sayad, ..	ditto.		Jok दूसरा, ..	1	1	Dáudpo- tra and		
2nd	Palra, ..	¾	¾	Dáudpo- tra, ..	ditto.	10 kos.			Játs, ..	ditto.		
	Khál, ..	3	1	Ghazi			Sherpur, ..	¾	1	ditto, ..	ditto.	
				Khana- ru,	ditto.		Ghans Joyia,	¾	¾	ditto, ..	ditto.	
	Badhire, ..	1	1	Lakviri, ..	ditto.		Jamál Joyia,	¾	¾	ditto, ..	ditto.	
	Ghafúrú, ..	2	1	Daultá- ná,	ditto.		Kúkari,	¾	¾	ditto, ..	ditto.	
11½ kos.	Bhadourn, ..	1	1	ditto, ..	ditto.	6th	Muttali, ..	1	1	ditto, ..	ditto.	
	Khairpur						Pipalli,	ditto, ..	ditto.		
	Chota, ..	2	..	Dáudpo- tra, ..	ditto.		Sher Maha- mad Khán,	¾	..	ditto, ..	ditto.	
	Núrpur, ..	1	1	Mixed, ..	ditto.		2nd Mattali,	..	ditto, ..	Khairpur		
	Tufuri, ..	½	½	Tufuri, ..	ditto.		Durpur,	1	¾	ditto, ..	ditto.	
Villages on the right bank.						8½ kos.	Wásti Mowl- vi-ke,	1	¾	Mixed, ..	ditto.	
Khokar, ..	1½	2½	Khokar, B-ke.		Wágé,		¾	¾	Wagi, ..	ditto.		
Wásti Rahim Sháh, ..	1½	1	Sayad, ..	ditto.	Gamu walur,		¾	¾	ditto, ..	ditto.		
Salderi,	2½	1½	Salderi, ..	ditto.	Goth Bahá- dúr,		1	1	Dáudpo- tra, ..	ditto.		
Laka Salderi,	1	¾	ditto, ..	ditto.	Kálá Ahul, 1		¾	Andu, ..	ditto.			
Kora Bhút- ná,	¾	¾	Bhútná, ..	ditto.	Goth,	¾	¾	Sayad, ..	ditto.			
Wásti Ha- kam-ke, ..	1½	¾	Karral, ..	ditto.		Gouhan,	1	¾	Beloch, ..	ditto.		
Márú Khán						Goth Moíál						
Beloch,	1	1	Beloch, ..	ditto.		Khán,	¾	1½	Dáudpo- tra, ..	G.N.M.		
Umar Gurja,	1	1	ditto, ..	ditto.		Goth Ali yár	¾	1½	ditto, ..	ditto.		
Tewanáh, ..	3	3	Fewani, ..	ditto.	Khán,	¾	1½	ditto, ..	ditto.			
Gohar,	2	5	Lakviri, ..	ditto.	Bhundi,	2	1½	ditto, ..	ditto.			
Láldeh,	2	4	ditto, ..	ditto.	Dera Putton- ka,	¾	1½	Beloch, ..	ditto.			
Fodar,	1	3	Ját, ..	ditto.	Goth Núr							
Arrain,	¾	3	Rain, ..	ditto.		Mahamad, 1	¾	Dáudpo- tra, ..	ditto.			
Láldeh,	¾	2	Daultá- ná,	ditto.	Villages on the right bank.							
Badura,	1½	¾	ditto, ..	ditto.	Pír Imám							
Kahur,	2½	¾	Faqir, ..	ditto.	Din,	1	..	Sayáds, ..	Malsián.			
Sháda,	¾	2½	Daultá- ná,	B.	Malik Wá- hun,	2	2	Wasseir, ..	ditto.			
Bahar Karm					Azímpur, ..	2	..	Beloch, ..	ditto.			
Allá Sháh,	1½	..	Sayad, ..	ditto.	Ahmadpur, ¾	..	Of Be- loch ori- gin, ..	ditto.				
Kalú Sháh,					Qázi Maha- mad,	¾	1	ditto, ..	ditto.			
Hassan						Morádpur, ..	1	..	ditto, ..	ditto.		
Sháh,	1	1	Kúkari, ..	ditto.		Ghauspur, ..	1	..	Mixed			
Karmpur, ..	1	3	Wasseir, ..	ditto.				tribes				
Moze Was- seir,	2	..	ditto, ..	ditto.				and Ját, ..	ditto.			
Dhalluan, ..	¾	1	Bhubbi, ..	ditto.	Fattéhpur, 1	¾	ditto, ..	ditto.				
2nd Wasseir,	1	¾	Wasseir, ..	ditto.								
Khángarh, ..	1	½	Bhabbi, I. S.									
Khánpur, ..	1	3	Rain, ..	Malsian.								

N. B.—B. for Badhourn. I. S. for Imám Sháh. G. N. M. for Goth Núr Mahamad.

Length of Stages and date.	Names of Villages.	Distance kos.		Caste.	Jurisdiction.	Length of Stages and date.	Names of Villages.	Distance kos.		Caste.	Jurisdiction.	
		Apart.	Inland					Apart.	Inland			
5½ kos.	Kádirpur, ..	¾	1½	Mixed tribes and Ját,	Malsián.	sth.	Dera Backa, Dera Gúl dí, Bilgani,	¾	1	Beloch, ditto, ..	D. B. N. ditto.	
	Chela Wá-hun,	1	1½	ditto, ..			Mír Qásim Sháh,	1	1	Karwar, ditto.		
	Kutabpur, ..	2	1	ditto, ..			Mujal,	1	¾	Majal, ditto.		
	Bahádur, ..	1	1	Wage, ..			Kasra,	1	1	Kasra, ditto.		
	Wásti Mirá-di,	1	1	Mohar, ditto.			Ahsam,	1	1	Ahsam, ditto.		
	Sháh Abú Zálím, ..	1	1	Usra Ját, ..			Gidpura, ..	¾	1	Joyce, ..		
				ditto.			Rattani,	¾	1	Dáudpo-tra, ..		
	Dera Lalle-de, ..	1½	1	Beloch, ditto.			Bákarpur, ..	¾	1	Channur B.		
	Wásti Hasil Beloch,	¾	..	ditto, ..			Villages on the right bank.					
	Dost Mahamad-ke, ..	1	1	Dáudpo-tra, ..			Moze Dera Deláwar, ..	1	1	Beloch, Kehore.		
	Moze Vazir Beloch, ..	¾	¾	Beloch, ditto.			Wigha Mal, ..	¾	¾	Wigh Mal, ..		
	Moze Alla yár,	¾	¾	ditto, ..			Gúl Mulhana Babádur, ..	¾	¾	Mulhani Wigh, ..		
							Sukar,	¾	¾	Seekar, ditto.		
	7th.	Goth Sháh Mahamad, ..	¾	¾			Dáudpo-tra, ..	G.N. M.	Kúl,	¾		¾
Goth Rústam Khán,		¾	¾	ditto, ..	Phul,	¾	¾		Phul, ..			
Do. Ibráhim Khán,		¾	¾	ditto, ..	Jans,	1	..		Waggan ditto.			
Wásti Jindú, ..		¾	¾	Khad-dun, ..	Ahur Wahun, 1½		ditto, ..			
Jhulam,		¾	1	Jhulan, ditto.	Kotli Murád Ali,	¾	..		Beloch, ditto.			
Shahar Bad-da,		¾	¾	Beloch, ditto.	Wea,	¾	..		Chattie, ditto.			
Lál Sahara, ..		¾	¾	Kurie-sha, ..	Gúlám Mahamad,	¾	..		Chawan, ditto.			
Phul,		¾	¾	Phul, ..	Moze Kut-tabú,	¾	..		Daultá-ná, ..			
Morád Ali, ..		¾	¾	ditto, ..	Ahsam,	¾	¾		Ahsam, ditto.			
Moze Ram, ..		¾	¾	Ráin, ..	Hasilwála, ..	1	¾		Kansa, ditto.			
Lalú Wásti, ..		¾	¾	Sarruke, ditto.	Nierwáhan, ..	1	1		ditto, ..			
MadAlla yár, ..		¾	¾	Dáudpo-tra, ..	Dodána,	2½	¾		Oojare, ditto.			
					Wásti Beloch-ke, ..	¾	1		Beloch, S.			
					Jhok Taka, ..	¾	1		ditto, ..			
				Stikrí,	2	2	Chan-nur, ..					
				Guze Lahun-wála, ..	1	1	ditto, ..					

From Baháwalpur to Mithankot by the Rivers Gharra, Panjnad and Indus.

Villages on the left bank.

Length of Stages and date.	Names of Villages.	Distance kos.		Caste.	Jurisdiction.	Length of Stages and date.	Names of Villages.	Distance kos.		Caste.	Jurisdiction.
		Apart.	Inland					Apart.	Inland		
Feb. 25th	Goth Bajra	¾	¾	Beloch, B.		11½ kos.	Búlákiwáli, ..	1	1½	ditto, ..	L.
	Koán-ke, ..	¾	¾	Beloch, B.			Kach Hayett, ..	1	1	ditto, ..	ditto.
	Goth Mulla Ghanni, ..	¾	¾	Dáudpo-tra Gu-sani, ..	ditto.		Bhuchar, ..	1	1½	ditto, ..	S. M.
	Jawarwáli, ..	¾	¾	Ját Chun-nar, ..	L.		Goth, Ghanni Khán, ..	¾	¾	Dáudpo-tra pir-jani, ..	ditto.
	Khanawáli, ..	¾	¾	ditto, ..	ditto.		Rowtana, ..	¾	¾	Koliar Ját, ..	ditto.

N. B. — K. for Kutabpur. D. B. for Dera Backa. N. for Nezinovah. B. for Baháwalpur. S. for Sirdárwah. L. for Lallapur. S. M. for Sirah Mustie.

Length of Stages and date.	Names of Villages.	Distance kos.		Caste.	Jurisdiction.	Length of Stages and date.	Names of Villages.	Distance kos.		Caste.	Jurisdiction.	
		Apart.	Inland					Apart.	Inland			
3 kos. 26th.	Sammú Sata,	1	½	Koliar	S. M.	10 kos.	Othwal,	1	½	Sarru	Kotla.	
	Wásti Muhabbat-ke,	1	1	Ját, ..			Motthi,	1	1	Sarru, ..		
	Bhaddi,	½	1	Gurwan	ditto.		Kotla Chakar,	1½	1	Motha	ditto.	
	Eesan,	1	½	Ját, ..			Moza Sultan,	1½	½	Ját, ..		
	Aman Sháh,	½	½	Mutha	Kutab.		Goth Qádir-bakhsh, ..	1	½	ditto, ..	ditto.	
	Naharwáli,	½	½	Ját, ..			Kotla Sháh	1	½	ditto, ..		
	Kot Dadú	1	2	Ghallor	K. D.		Rupul,	1	½	Ját, ..	ditto.	
	Gallu,	1	2	Ját, ..			Kikkarwáli, ..	1	½	ditto, ..		
	Muhabbatpur,	½	1	Gallu	M.		Wásti Sher-ke,	½	½	Goriyá, ..	ditto.	
	Abdullapur, ..	½	1	Dáudpo-tra, ..			Wásti Husain-ke, ..	½	½	Jubul, ..		
	Guzr Banh, ..	½	½	Ját, ..	ditto.		Batton,	2	1	Khinevon, ..	ditto.	
	Khokar,	½	½	ditto, ..			Jhitthewálá, ..	2	½	ditto, ..		
	Bhammá,	½	½	ditto, ..	ditto.		Murun	2	½	ditto, ..	ditto.	
	Mallikwall, ..	½	½	ditto, ..			Jiwálá,	2	½	ditto, ..		
	Mallik Sikandar,	½	½	ditto, ..	ditto.		Pathana, ..	1	½	ditto, ..	ditto.	
	Gallá,	2	½	Gallá			Wasti Bhari-ke,	1	½	Ghallu, ..		
				Ját, ..	ditto.		Villages on the left bank.					
	Pipli kanjan-ke,	½	½	ditto, ..			Kanúwálá, ..	1½	1	Ghallu	A.	
	Alliwáhun, ..	1	1	ditto, ..	A.		Ghallu, ..	½	½	Ját, ..		
	Phagwára, ..	½	1	ditto, ..			Behli Wahál-ke, ..	½	½	ditto, ..	ditto.	
	Uthwál,	½	½	ditto, ..	ditto.		Jundwadda, ..	½	½	ditto, ..		
	Kabbul,	½	½	ditto, ..			Wásti Shakar Khán, ..	½	½	ditto, ..	ditto.	
	Villages on the right bank.						Ismailpur, ..	½	½	ditto, ..		
	Miani,	½	½	Ját	A. W.		Wásti Mahamad Khán, ..	1	½	Dáudpo-tra, ..	ditto.	
	Wásti Abád-ke,	1	½	Tuhi, ..			Goth Kheir Khán, ..	½	½	ditto, ..		
	Kikri,	1	½	½át Chun	ditto.		Goth A'lam Khán-ke, ..	½	½	Ghallu, ..	ditto.	
	Wásti Tse-ke,	1	½	nar, ..			Jhangra, ..	1	½	ditto, ..		
	Do. Gholam Mahamad, ..	½	½	Koliar	ditto.		Kissamwálá, ..	½	½	Husain	ditto.	
	Badhi, ..	½	½	Ját, ..			Moza Dahar, ..	1	½	Ját, ..		
	Kallar wah, ..	1	½	ditto, ..	ditto.		Mírpur, ..	½	½	ditto, ..	ditto.	
	Baghowali, ..	1	1	Pucka-war, ..			Kirree, ..	½	2	Khukki, ..		
	Batta Kotla, ..	½	½	Koliar	K.		Juméwáli, ..	½	2	ditto, ..	ditto.	
	Sodra,	½	1	Ját, ..			Kot Imám	½	½	Beloch, ..		
	Hyatpur, ..	½	½	ditto, ..	ditto.		Din, ..	½	½	ditto, ..	ditto.	
	Wásti Bijrans de, ..	½	½	K.			Moza Bakar, ..	½	½	ditto, ..		
	Yaruka chack,	½	½	Dáudpo-tra, ..	ditto.		Bakra,	1	1	Punnu	ditto.	
				Ját, ..			Jiendwá á, ..	2	1	Ját, ..		
				Uttera, ..	ditto.		Chunhan, ..	½	2	Beloch, ..	ditto.	
				Rutta			Rassúlpur, ..	½	2	Kohile, ..		
				Já, ..	Kotla.		Guzr Makhanbela, ..	½	1	ditto, ..	ditto.	

N. B.—K. D. for Kot Dada. M. for Mubárikpur. A. for Alliwáhun. A. W. for Adam Wahán-ke. K. for Khán wah.

Length of Stages and date.	Names of Villages.	Distance kos.		Caste.	Jurisdiction.	Length of Stages and date.	Names of Villages.	Distance kos.		Caste.	Jurisdiction.
		Apart.	Inland					Apart.	Inland		
Villages on the right bank.											
	Jumma						Moza Ma-				
	Ghaltu, ..	$\frac{1}{2}$	$\frac{1}{2}$	Ghallu, U.			long,	1	1	Malung, Uch.	
	Gaggúwálá,	$\frac{1}{2}$	$\frac{1}{2}$	ditto, .. ditto.			Khori,	1	1	Bhuttan, ditto.	
	Bahúwálá, ..	$\frac{1}{2}$	$\frac{1}{2}$	Khunb, ditto.			Thul Mastu-				
	Lal Jubul, ..	$\frac{1}{2}$	$\frac{1}{2}$	Ghallú, ditto.			wálá,	2		ditto, .. ditto.	
	Miani, ..	$\frac{1}{2}$	$\frac{1}{2}$	Jabeil, ditto.			Moza Phi-				
	Sbarifwáli, ..	$\frac{1}{2}$	$\frac{1}{2}$	Ghallú, ditto.			randi,	2		Phirande ditto.	
	Bakhuwáli, ..	1		ditto, .. ditto.			Moza Abid, ..	1		ditto, .. ditto.	
	Jablá, ..	2		ditto, .. ditto.			Wásti Ibrá-				
	Moza						him Mullah, ..	$\frac{1}{2}$		Mullah, ditto.	
	Puckawar, ..	$\frac{1}{2}$	$\frac{1}{2}$	ditto, .. ditto.			Jhoki Jáfár				
	Duggar, ..	$\frac{1}{2}$	$\frac{1}{2}$	ditto, .. ditto.			Sháh-ke, ..	$\frac{1}{2}$		ditto, .. ditto.	
	Skirance, ..	$\frac{1}{2}$	$\frac{1}{2}$	ditto, .. ditto.			Hontah, ..	1	1	Mullah, ditto.	
	Miani, ..	1		ditto, .. ditto.			Káim Unnar, ..	$\frac{1}{2}$	1	Unnar, ditto.	
	Kaddú Jhu-						Wazwar,	$\frac{1}{2}$	1	Wagwar, ditto.	
	lan ..	$\frac{1}{2}$	$\frac{1}{2}$	ditto, .. ditto.			Chuvoun, ..	1		Chuvoun ditto.	
	Sheir Kbán,	$\frac{1}{2}$	$\frac{1}{2}$	ditto, .. ditto.			Bakhu Khan-				
	Noraja, ..	$\frac{1}{2}$	$\frac{1}{2}$	ditto, .. ditto.			da Mad, ..	1	1	Dabar, Sheidané	
	Mumú Ja-						Wagwan, ..	1	2	Wagu, .. ditto.	
	beil, ..	$\frac{1}{2}$	$\frac{1}{2}$	ditto, .. ditto.			Sámú-ka, ..	2	$2\frac{1}{2}$	Sámúka, S. ka.	
	Arra, ..	1		ditto, .. ditto.			Kehul,	$\frac{3}{4}$	2	Kehul, .. ditto.	
	Barkhúrdár						Moghal, ..	1	2	Mahar, ditto.	
	Jabeil, ..	1	$\frac{1}{2}$	ditto, .. ditto.			Chachar,	$\frac{1}{2}$		Chachar, G.	
	Ubhawári, ..	2	1	ditto, .. ditto.			Villages on the right bank.				
	Saiful, ..	$\frac{1}{2}$	$\frac{1}{2}$	ditto, .. ditto.			Moza Hassú				
	Suleimán, ..	$\frac{1}{2}$	$\frac{1}{2}$	ditto, .. ditto.			Massú,	1	2	Beloch, Ghalluán	
	Pahládpur, ..	$\frac{1}{2}$	$\frac{1}{2}$	ditto, .. ditto.			Mahamad				
	Langur,	1		ditto, .. ditto.			Kh n,	1	1	ditto, .. ditto.	
	Háfiz Abdul						Sáwanwáli, ..	1	1	Mullah, ditto.	
	Rahim, ..	1	1	ditto, .. ditto.			Sitpúr,	2	1	ditto, .. Sitpúr.	
	Langáh, ..	1	1	Langáh, K.			Jhullan,	1	2	Jhullan, ditto.	
	Haveli						Khángarh, ..	1	1	Hattú, ditto.	
	Hinduán, ..	2	$\frac{1}{2}$	Hindu, ditto.			Moza Bhat-				
	Pabban, ..	1	1	Rukh, .. ditto.			tar,	1		Bhattar, ditto.	
	Shirni, ..	$\frac{1}{2}$	$\frac{1}{2}$	ditto, .. ditto.			Khánpur, ...	1	2	Indre, .. ditto.	
	Benth Músa-						Kot Alla Yár				
	ka, ..	$\frac{1}{2}$	1	ditto, .. ditto.			Mahamad, ...	$\frac{1}{2}$	1	Purrai, ditto.	
	Dhammur, ..	$\frac{1}{2}$	1	Dham-			Moza Pannú, ..	2	1	Pannú, ditto.	
				mur, .. ditto.			Thoba,	1		Utteru, ditto.	
	Chun Jan, ..	2	3	Chunjan ditto.			Wásti Nan-				
	Mongh,	1	1	ditto, .. ditto.			dan,	1		Jhullan, ditto.	
	Azmuth,	1	2	Punnu, Ghalluán			Wásti Sone-				
	Báli,	$\frac{1}{2}$	1	Mulun, ditto.			ke,	1		Bhuttur, ditto.	
Villages on the left bank.											
	Moza Lál, ..	2	2	Beloch, Uch.			Mud Lash-				
	Mahamad						kari,	1		Jhullan, ditto.	
	Khán,	2	2	ditto, .. ditto.			Dohar,	$\frac{1}{2}$	1	Dahar, B.E.-ka.	
	Wásti Dur-			Dargoch			Dhaka,	1	$2\frac{1}{2}$	Hindu, Dhako.	
	gochree, ..	2	2	ree, .. ditto.			Lang,	$\frac{1}{2}$	$1\frac{1}{2}$	Lang, ditto.	
	Miani,	2	2	Mun-			Thattar,	1	$\frac{1}{2}$	Thattar, ditto.	
				charri ditto.			Wásti Ya-			Beloch	
	Jhallan,	1	1	Jhullan, ditto.			randi,	1	2	Gopang ditto.	
	Núrwalá, ..	1	1	ditto, .. ditto.			Dost Maha-				
							mad Khán, ..	$\frac{1}{2}$	$1\frac{1}{2}$	ditto, .. ditto.	
							Ghambir, ..	$\frac{1}{2}$	$\frac{3}{4}$	Mehar, ditto.	
							Kot Mithan,	3	2	Beloch, M.	

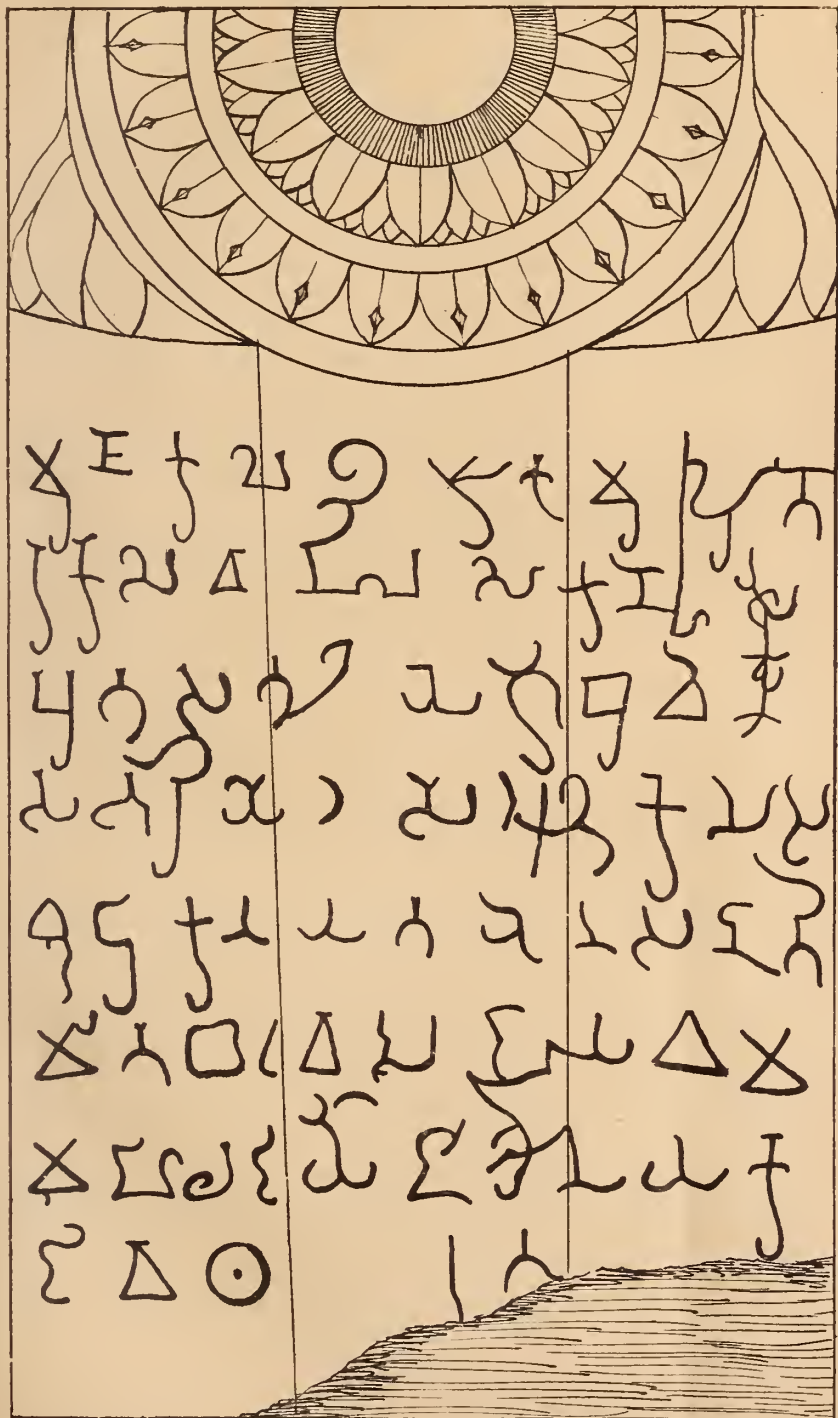
N. B.—U. for Udhawara. K. for Khanbela. S.-ka for Sámú-ka. G. for Ghansur. B. E.-ka for Benth Esá-ka. M. for Mithankot.

III.—*Facsimiles of Ancient Inscriptions ; continued from page 97.*

In the library of the Asiatic Society are ten manuscript volumes of drawings of sculpture, images, architecture and inscriptions, forming part of the celebrated collection of the late Colonel MACKENZIE. The greater portion of these are as yet unknown and undescribed. None of the series, as far as we can ascertain, have been published, nor are we aware of any attempt having been made to decypher the inscriptions. It is greatly to be wished that the whole of these interesting documents could be digested in some convenient arrangement and made accessible to the learned world, especially now that the invention of lithography offers a cheap and expeditious means of effecting such an object. We were in hopes of combining their publication in the form of a volume or two of plates, with the digest of the MACKENZIE manuscripts, which, at the recommendation of the Society, the Government has lately entrusted to the Rev. W. TAYLOR at Madras, the author of "Oriental Historical manuscripts." As a specimen of the contents of these curious volumes, Captain CUNNINGHAM has kindly favored me with the two lithographs numbered as Plates X. and XI. He has selected the two longest inscriptions from the volume, No. 18, entitled "Antiquities at *Amarávatí*," a town in the *Berár* province, situated on the *Kistna* river to the west of *Nágpur*.

The volume in question contains a multitude of very beautiful drawings of the elaborate sculpture for which the ruins at that place are so remarkable. One of the slabs of stone, depicted among the rest, now forms a principal ornament of the Society's museum, and the execution of the lively scene it represents has been frequently and deservedly admired. The majority of the sculptures of *Amarávatí* seem to belong to a magnificent *dehgopa* or Buddhist shrine ; but there is an admixture towards the end of the volume of objects of the *linga* worship. An accurate map of the town is prefixed, whence it appears that the ruined *dehgopa* whence the relics are taken was on a mound of 150 feet diameter, now converted into a tank. It is called *Dipal-diinna*, (translated by Colonel MACKENZIE "the mound of lights,") which so resembles the name of a similar place of Buddhist celebrity in Ceylon (*Dambadinna*) that we imagined, on seeing the inscription from the east side of the gateway (Pl. X.), some mistake must have been committed ; for on comparing the characters with Plate XXVIII. of the Journ. As. Soc. vol. v. p. 554, their perfect identity with the Ceylonese type of old *Nágarí* was manifest : indeed the three initial letters appear to form the same word "*mujiké*" . . . and the same combi-

FACSIMILE OF AN INSCRIPTION on the East side of the S. Gateway
OF DIPALDINNA AT AMRAWUTTY.



nation there recognized as "*Mahārāja*" . . . drew Captain CUNNINGHAM'S attention while copying the penultimate line of the present inscription. No doubt the whole of this class of cave and *chaitya* inscriptions are intimately connected, and refer to the same age; and however illegible now, they will ultimately yield to the persevering progress of antiquarian research.

The second inscription, occupying the two sides of Plate XI. is altogether of a different class, although the book states it to have been procured from the same town, *Amarávatí*. In WILSON'S catalogue of the MACKENZIE MSS. vol. ii. page xxvii. we find notice of a "report of the progress of *Anand Ráo* (one of the *Colonel's* travelling collectors) on his journey in the *Dharanikota*, *Amarávatí*, and *Bender* districts in the Telugu country for the year 1817." This would, doubtless, afford all the requisite information respecting the discovery and position of the fragment, were the report in our possession; but it seems to have been sent to *England* with the bulk of the manuscripts, and thence probably it has found its way to *Madras*. Should this be the case we shall not appeal in vain to the Editor of the *Madras Literary Journal* to supply us with any extract that may throw light on the subject.

The stone is noted down as 5 feet long by 17 inches in width. It is in very good preservation, as far as it goes, but the loss of the left half of the summit, and the fracture at the lowermost line, render it doubtful how much of the text may have preceded or followed that which remains.

The character has much resemblance to that of some of the cave inscriptions at *Mahábalipur* and other places to the westward, the essential portion of each letter also assimilates very closely to the alphabets of the *Chattisgarh* and *Seoní* inscriptions, and this has served as the key by which I have effected the transcription of the whole.

It is worthy of remark, that in this alphabet, which we may aptly denominate the *Andhra* character from its locality, may be traced the gradual transition from the more simple Devanágari of Northern India, (No. 2 of *Allahabad*, *Gaya* and *Guzerat*) to the complicated or florid writing of the Southern Peninsula. On comparing it with the *Hala Canara*, or ancient *Carnatic*, the letters *n*, *t*, *y*, *r*, *l*, *kh*, *th*, *dh*, *bh*, which may be regarded in some degree as test letters, because they have undergone more variation than others in the modern writing of different provinces, are nearly identical. There is also an incipient loop in the lower line of many of the letters which becomes afterwards more developed in the west and south. The *Telinga* or *Telugu* character

is one step further removed, but it springs directly from the *Hala Canara*, and retains many of the *Andhra* letters still unchanged, particularly the *dh* and *th*. In the accompanying plate (xii.) we have thought it worth while to exhibit these resemblances, and point out the peculiarities noted, that no means may be neglected of facilitating the examination of other inscriptions that may link on naturally at either end of this fragment of the chain of our Indian palæography.

After having made the transcript according to the assumed value of each letter, it was revised and corrected in all doubtful points by reading it over with MA'DHORA'Y* pandit, the aged librarian of the Sanskrit college, who, from having been with Colonel MACKENZIE, is better versed in the varieties of the Nāgarī alphabets than any pandit in *Calcutta*. Where the context did not make sense, the letters were carefully analyzed and all possible variations of each letter suggested, until the true or most probable reading was apprehended. Although some few doubtful passages remained, and many orthographical errors were detected, the context was sufficiently intelligible, and satisfactory. In some few instances (as in lines 6, 8, and 17) the distinguishing stroke or dot of the letter *n* has been omitted either by the sculptor or by the transcriber. The omission can be supplied without hesitation, as no other letter occurs at all similar in form. The cross of the *k* in lines 7 and 8 is also wanting.

For the translation we are indebted to the Rev. Mr. YATES, whose critical knowledge of the Sanskrit enables him to give it the correct grammatical construction which might evade an oral interpreter depending upon a vernacular explanation by the pandits.

Transcript of the Amarāvati Inscription.

- 1 .. ये नार्या अतीर्त्थि भुदेवता अ ..
- 2 .. रेणा वा मातृकाधरेणा वा श्रीलवता
- 3 .. र्मरिपालनोय पिवरपिण्डघात भयनास
- 4 कर्त्तव्यं आत्र विनयाभिधर्मपाधखे भिञ्च ..
- 5 राज्ञि कामापत्तिमापन्नेन नवस्तव्यं संघावशेष ..
- 6 न्यथा प्रति द्यादेसति नवस्तव्यम् संघाय दान

* It was MA'DHORA'Y who aided Captain TROYER in the *Allahabad* inscription, J. A. S. vol. ii.

- 7 टंक दातव्यं श्रीलसम्पन्नेभ्योश्चमरणैभ्यः पि (धा)
 8 तव्य धर्मकथिकाय त्रिगुणो लाभः वेद्यतार्किक
 9 स्य सोवस्थानन्नदातव्यं सद्धर्म लेखकाय द्विगुणोला (भः)
 10 घटसपराज्य मासम्प्रति मासम् पुः
 11 नुलेपनैः वैशाख पुर्णमास्याम्बिशेष
 12 प्रतिटत्रकेन परिचारेणा भवितव्यं इति ध
 13 मात्रादिकस्य वामम पुण्यराशेर्भा गो भ
 14 ढ्ढातक पिढ्ढातक सुहृद्द्घातक देवदिज
 15 महापाप कारिणा तत्त्रियेन परिवाढ्यन्ति
 16 (रा) ज्ञा संघसन्धीर्णं कृत्वा महाघोराग्निः प्र
 17 राजवत्त्रिबुद्धस्य शासनं लोकशासनं सोभ
 18 लम्बशाखो शासनवृक्षश्चिरं स्थातु ॥ स्थातुवि ..
 19 समग्रा सर्वोबलोका सुखीभवतु ॥ याव
 20 क्षिपितरं शप्रबलितमकरक्षेभिताम् बखम
 धवद ... दि तं

The few alterations found necessary by Mr. YATES will be best understood from the insertion of his reading at length : we may however here notice one or two peculiarities or faults of orthography remarked by the pandits. The *r* of धर्म in line 8 is written thus, धरम्भः— the word सुहृद्, friend, in line 14, is written *Surkhdad* with a double *h*, and the *r* superposed :—The *anuswara* is often replaced by the स् at length : the ज्ञ is a compound letter formed by suffixing ण to ज ; and the च is in like manner formed by the union of the क and the ष, as is observable in other old alphabets, proving that these anomalies to the otherwise beautiful and perfect arrangement of the Sanskrit alphabet, are of comparatively modern introduction.

The purport of the inscription refers, in all probability, to the foundation and endowment of some Buddhistic institution by the monarch of the day. His name cannot be extracted from the passages extant. It is evident, therefore, that history will gain nothing by the

document;—nor can any of the loose chronicles of the Hindu dynasties of *Telinga* or the *Carnatic* be expected to throw much light upon the period when *Amarávatí* was subject to their hated opponents, the followers of the *Buddhist* creed.

Modified Transcript by the Rev. W. YATES.

येनार्यातिथि भूदेवता धुरन्धरेणवामाढकापरेण वा शीलवता स
स्मरिपालनीय पीवर पिण्डघात भयनाशनं कर्त्तव्यं ।
अत्र विनयाभिधर्मबाधकै भक्तै राज्ञि कामापत्तिमापन्नेन न वस्तव्यं ।
संघावशेषेऽन्यथाप्रतिवादे सति न वस्तव्यं ।
संघाय दानकं दातव्यं शीलसम्पन्नेभ्यः अमणकेभ्यः पिण्डं दातव्यं ।
धर्मं कथिकाय त्रिगुण लाभः ।
बौद्धतार्किकस्य स्ववस्थानं न दातव्यं ।
सद्धर्मलेखकाय द्विगुण लाभः सदाशयराजाय मासं प्रति मासं
पुष्पानुलेपनै वैशाख पौर्णमास्यां विशेष घट प्रतिष्ठादत्तेण परिवारेण भवितव्यं ।
इति मात्रादिकस्य वा मम पुण्यराशेर्भागः भर्तृघातक पिण्डघातक सुहृद्घातक
देवद्विजमहापापकारिणां तत्तु । येन परिपालयन्ति राजानः संघसञ्छेदनं
कृत्वा महाघोराग्निः पुण्यराज्यवर्त्तिवुद्धस्य शासनं ।
लोक शासनं शुभभक्तमभ्रंशः खे शासन वृत्तश्चिरं स्थाता ।
स्थातुं च समन्तात् सर्व्वे च लोकाः सुखीनो भवन्त ।
यावद्दीचीतरङ्गप्रचलितमकरचोमिताम् भूसम ।

Translation.

(Two words omitted here as belonging to something before).
—— By the virtuous man who relieves the guest and the bráhma-
man, and who is kind to parents, the fear of necessary food ought
not to be entertained. He who experiences disappointment near a
king feasting with even the mild opposers of virtue, ought not to
abide there, nor ought he to abide where injustice is practised. We
ought to give to all. Food ought to be given to the laborers who
are virtuous. Three-fold gain should be given to the speaker of truth.
Place is not to be given to the disputer of Buddhism. Two-fold gain
should be given to the teacher of religion. To the good king tribute
must be paid monthly with flowers and perfumes, and on the full
moon in the month Vaishakha he ought in particular to be presented
with the jar. My virtue and that of my ancestors is for the salvation

COPY OF AN INSCRIPTION
FROM AMRAVATI

COL MACKENZIE'S MSS.

1 သာယာယုဒိန္ဒြာဗေဒန
2 ဂုဏာသာယုဒိန္ဒြာဗေဒန
3 နှိပ်စက်သောသိင်္ဃာတိတရား
4 နှိပ်စက်သောသိင်္ဃာတိတရား
5 ဂုဏာသာယုဒိန္ဒြာဗေဒန
6 ဂုဏာသာယုဒိန္ဒြာဗေဒန
7 သံဃာတို့၏လောကီလောကုတ္တရာ
8 နှိပ်စက်သောသိင်္ဃာတိတရား
9 သာယာယုဒိန္ဒြာဗေဒန

Comparison of the Amaravati character with other alphabets

	Alahabad	Nerbudda	Kistna	Canara modern	Telinga modern		Alahabad	Nerbudda	Kistna	Canara modern	Telinga modern		
k	𑖅	𑖅	𑖅	𑖅	𑖅	gutturals	y	𑖅	𑖅	𑖅	𑖅		
kh	𑖆	𑖆	𑖆	𑖆	𑖆		r	𑖇	𑖇	𑖇	𑖇		
g	𑖇	𑖇	𑖇	𑖇	𑖇		l	𑖈	𑖈	𑖈	𑖈		
gh	𑖉	𑖉	𑖉	𑖉	𑖉		v	𑖉	𑖉	𑖉	𑖉		
ng	𑖊	𑖊	𑖊	𑖊	𑖊		ś	𑖊	𑖊	𑖊	𑖊		
ch	𑖋	𑖋	𑖋	𑖋	𑖋	palatials	sh	𑖌	𑖌	𑖌	𑖌		
chh	𑖍	𑖍	𑖍	𑖍	𑖍		s	𑖍	𑖍	𑖍	𑖍		
j	𑖎	𑖎	𑖎	𑖎	𑖎		h	𑖏	𑖏	𑖏	𑖏		
jh	𑖐	𑖐	𑖐	𑖐	𑖐		compounds						
ny	𑖑	𑖑	𑖑	𑖑	𑖑		ksh	𑖒	𑖒	𑖒	𑖒	𑖒	
t	𑖓	𑖓	𑖓	𑖓	𑖓	linguals	jn	𑖔	𑖔	𑖔	𑖔		
th	𑖕	𑖕	𑖕	𑖕	𑖕		Initial and medial vowel.						
d	𑖗	𑖗	𑖗	𑖗	𑖗		a	𑖘	𑖘	𑖘	𑖘	𑖘	
dh	𑖙	𑖙	𑖙	𑖙	𑖙		á	𑖚	𑖚	𑖚	𑖚	𑖚	
n	𑖛	𑖛	𑖛	𑖛	𑖛		i	𑖜	𑖜	𑖜	𑖜	𑖜	
t	𑖝	𑖝	𑖝	𑖝	𑖝	dentals	í	𑖞	𑖞	𑖞	𑖞		
th	𑖟	𑖟	𑖟	𑖟	𑖟		u	𑖠	𑖠	𑖠	𑖠		
d	𑖡	𑖡	𑖡	𑖡	𑖡		ú	𑖢	𑖢	𑖢	𑖢		
dh	𑖣	𑖣	𑖣	𑖣	𑖣		e	𑖤	𑖤	𑖤	𑖤		
n	𑖥	𑖥	𑖥	𑖥	𑖥		ká	𑖦	𑖦	𑖦	𑖦	kai	
𑖧	𑖨	𑖨	𑖨	𑖨	𑖨	labials	ke	𑖩	𑖩	𑖩	𑖩	kau	
ph	𑖪	𑖪	𑖪	𑖪	𑖪		ki	𑖫	𑖫	𑖫	𑖫	𑖫	kí
b	𑖬	𑖬	𑖬	𑖬	𑖬		ku	𑖭	𑖭	𑖭	𑖭	𑖭	ku
bh	𑖮	𑖮	𑖮	𑖮	𑖮		ko	𑖯	𑖯	𑖯	𑖯	𑖯	kr
m	𑖰	𑖰	𑖰	𑖰	𑖰								

Initial and medial vowels.

a	ㅏ	ㅑ	ㅓ	ㅕ	ㅗ	ㅛ
á	ㅏ̇	ㅑ̇	ㅓ̇	ㅕ̇	ㅗ̇	ㅛ̇
i	ㅗ	ㅛ	ㅕ	ㅗ	ㅛ	ㅕ
í	ㅗ̇	ㅛ̇	ㅕ̇	ㅗ̇	ㅛ̇	ㅕ̇
u	ㅜ	ㅠ	ㅜ	ㅠ	ㅜ	ㅠ
ú	ㅜ̇	ㅠ̇	ㅜ̇	ㅠ̇	ㅜ̇	ㅠ̇
e	ㅓ	ㅕ	ㅓ	ㅕ	ㅓ	ㅕ
ká	ㅏ	ㅑ	ㅓ	ㅕ	kai	ㅓ
ke	ㅓ	ㅕ	ㅓ	ㅕ	kau	ㅓ
ki	ㅗ	ㅛ	ㅕ	ㅗ	ㅛ	ㅕ
ku	ㅜ	ㅠ	ㅜ	ㅠ	ku	ㅜ
ko	ㅓ	ㅕ	ㅓ	ㅕ	ko	ㅓ

မှ စ ချ လ ရွံ မှု ကြံ ပါ ဟု သိ နိုင် နေပါ။

Form. ye no su rtt mm rbhi ya sy khe ji rhk jn :

of murderers of husbands, murderers of fathers, and murderers of friends, and of those who have committed great sins against the gods and bráhmans. The kings that do not regard this kingdom preserving religion of BUDDHA, shall by it be cut off with all their family and perish in a flaming fire. May this very excellent religion of the people resembling a tree, remain in heaven for ever, and may people in all directions through its remaining, be happy as long as the sea continues to be agitated by marine monsters....

IV.—*Note on a Specimen of the Bos Gaurus.* By Dr. GEORGE EVANS,
Curator of the Medical College.

[We are indebted to Lieut. G. ABBOTT, 15th N. I. for the faithful lithographic representation of this skull in Pl. XVI.—ED.]

As I have reason to believe that very little is known of the *Gaur* (*Bos Gaurus*), or the animal generally considered by our Indian sportsmen as the Bison of the Indian forests and jungles, and thinking it might prove interesting, I have sent for the inspection of the Members of the Asiatic Society, who may be present at the next ensuing meeting, an exceedingly fine cranium of one of these very rare animals, which has recently been presented to me by a gentleman residing in the *Sambhulpur* district.

For want of good and select specimens of heads of the genus *Bos*, I am unable to offer any valuable remarks drawn from comparative observation of the osteological structure, so as to determine with anatomical precision whether it actually belongs to the Bisontine or Taurine group of the genus. I am, however, inclined to assign it to the latter, or otherwise to consider it as an intermediate species connecting the two divisions with each other; and what would seem to favor this intermedial arrangement, is its differing from both in some very essential points, and again corresponding with each in many of its generic relations.

In the present specimen, which is that of an old male, the forehead is deeply concave, broader than high, (taking the middle of the orbits as the base,) having a strong scabrous arched crista at the summit of the head, where it joins the parietal bone, to which it is firmly accreted: from this and the lateral parts of the frontal bone, a little above the declension of the orbits, proceed strong, thick-set and gently recurvent horns, the points turning towards the face. The orbits are remarkable for their lateral projection from the body of the

os frontis, in which respect the animal bears a marked resemblance to the Cervine race, as also by the pointed form of the nose, both which tend to give a peculiar character and wedge-like form to the head and face. There is also a deviation in the sudden termination of the full labial bones in their progress to the ossa nasi, which I do not observe in the heads of any of such of the domestic species as I have had an opportunity of examining; or even in those of the several buffaloes in my possession, their attachment being exclusively confined to the superior maxillary bones, without having any connection with those of the nose, which latter are large, broad and well arched, affording a very extensive chamber for the free passage of air, and also for the full expansion of the organ of smell. From this conformation I make no doubt that the animal is capable of enduring long-continued exertion: is possessed of exquisite scent, and that the intonations of the voice are thereby rendered deep, hollow and sonorous. In short, the whole formation of the head of this colossal bull appears to correspond with that of the fossil *Urus* found in different parts of Europe, and it unquestionably displays a vast extent of power to defend and assault, combined with great personal courage and precision in attack; and I have no doubt that he must often prove a most formidable antagonist to the tiger, the wild buffalo, and other tenants of his geographical range.

In looking over the different crania in the Society's museum, I find an imperfect skull (merely horns and forehead) marked "*Gaur*," which agrees with my specimen only in the shape of the horns, but the forehead is rounded as in the buffalo, and not cristated as in my specimen, which I look upon to be the true *Gaur* (*Bos Gaurus*) confined to the more sequestered and elevated tracts of Central India; and the above mentioned, that of the *Gayal* (*B. Gavæus*), wanting the occipital ridge, and dispersed more about the mountainous districts of the eastern provinces, unless indeed it prove to be the female of the one here described: but the propriety of classing even this and the *Yak* (*Bos Poephagus*) with the Bisons, may be questioned if external similitude has alone led to the arrangement. The only true standard for settling their mutual affinities and establishing their right to be included under the one or the other of the *artificial* divisions, which the difference observable in animals of the same genus, constituting varieties, has compelled naturalists to resort to, would be a strict inquiry into their individual osteological peculiarities, placing those under the Bisontine group, which, corresponding pretty generally in their external characters with each other, have, like the American Bison

fig. 1



fig. 2



L. Abbott del.

(*B. Americanus*), the type of the existing species, fifteen pairs of ribs—those with fourteen pairs, the intermediate link, to which the two above varieties and the *Ydk* would most probably belong—and those with only thirteen pairs should be considered as the true Taurine which would include all our domestic kine.

Measurement of the Gaur's head (B. Gaurus) compared with the up-country bullock and the wild buffalo.

	Gaur.		Up-count. Bullock.		Wild male Buffalo.	
	Ft.	In.	Ft.	In.	Ft.	In.
Length of the head from the tip of the nose to the summit of the crista,	1	11.3	2	0.0	2	0.0
Breadth of the occipital ridge between the roots of the horns,	0	10.5		7.5		5.0
— across the forehead at the greatest projection of the orbits,		10.0		8.2		10.5
— at the narrowest part of the forehead, ..		8.5		6.4		8.2
Depth of the occipital plane, from the great foramen to the top of the crista,		9.0		4.2		6.0
— of the superior maxilla from its junction with the nose of the alveolar edge of the molar tooth,		5.7		5.5		7.0
Breadth of the nasal fossa,		3.7		2.7		3.5
Height of do. from the palatine bone,		3.5		3.0		3.3
Length of the horn at its greatest curvature,	2	0.3		10.7		?
Circumference at its base,	1	4.2		7.1		?

V.—*Memorandum on the Gaur and Gayal. By Assistant Surgeon J. T. PEARSON, Cur. Mus. Asiatic Society.*

At the last meeting of the Society a paper was read, purporting to be a notice on the head of the *Gaur*, by Mr. EVANS. In that paper the author stated that he went into the Museum of the Society and found a specimen, consisting of the horns and part of the skull of a bovine animal, marked "*Bos Gaur*," but which in reality belonged to the *Gayal*, another large animal of the same group, a native of the forests of *Chittagong*. It may be in the recollection of some of the members here present, that, as the specimen in the Museum was labelled by myself, I felt called upon to give my reasons for thinking it part of the *Gaur*, and not of the *Gayal*; whilst that exhibited by Mr. EVANS was perhaps the head of the latter animal, or a specimen of the other sex of the former. I have since been able to consult several authors on the same subject, and of collecting some information which I purpose to lay before you.

The first account of the *Gaur* I have met with is in the Memoirs of the Museum of Natural History by M. GEOFFROY SAINT HILAIRE; being a translation of a notice by Major ROUGHSEGE, sent by that gentle-

man to M. EUGÈNE DESBASSAYNS, son of the Governor of the French possessions in India, and by him to M. GEOFFROY SAINT HILAIRE. In this paper the only passage that bears upon the point in question, the form of the forehead, is the following, which I have retranslated, but which you will also shortly hear in the original:—"Its head has almost all the characters of that of our domestic bull, but the frontal bone appears more projecting and more elevated."

The next account is a more satisfactory one, contained in a paper by Dr. THOMAS STEWART TRAILL in the 11th volume of the *Edinburgh Philosophical Journal*; drawn up from a MS. journal of the same hunting-party mentioned in that furnished by Major ROUGHSEGE to M. GEOFFROY SAINT HILAIRE, which took place at *Myn Pat* in *Sergújah*; and from the personal explanations of Captain ROGERS, who was of that party, and who is stated to have paid considerable attention to the quadrupeds of India. You recollect the remarkable *concavity* of the forehead of Mr. EVANS's specimen, and will be able to satisfy yourselves if that concavity accords with the projecting frontal bone spoken of above, and with the following description by Dr. TRAILL. He says—"The form of the *Gaur* is not so lengthened as that of the *Urna*. Its back is strongly arched, so as to form a pretty uniform curve, from the nose to the origin of the tail, when the animal stands still. This appearance is partly owing to the *curved* form of the nose and *forehead*, and still more to a remarkable ridge, of no great thickness, which rises six or seven inches above the general line of the back, from the last of the cervical, to beyond the middle of the dorsal vertebræ, from which it is gradually lost in the outline of the back." Now it is evident the above language could not be applied to an animal with a *concave* forehead, like that in Mr. EVANS's specimen; where the concavity instead of being but little below the rest of the bone, as it is in the domestic cow, made, as you saw, a deep fossa, forming a very remarkable feature; and which could not belong to an animal whose form exhibited along the back "a pretty uniform curve from the nose to the origin of the tail," and which "appearance is partly owing to the curved form of the nose and forehead:" for a concave forehead, like that in Mr. EVANS's specimen, would break the uniformity of the curve, instead of help to form it.

Again, Dr. TRAILL apparently in the very phrase, translated by M. GEOFFROY SAINT HILAIRE, says:—"The character of the head differs little from that of the domestic bull, excepting that the outline of the face is more curved, the os frontis more solid and projecting." This, no doubt, was also the case in the Society's specimen of the face,

as it is of the forehead. But in Mr. EVANS's specimen, so far from the face being more curved and the forehead more projecting, the face is quite straight and the forehead deeply concave. We may, therefore, safely conclude, that Dr. TRAILL's *Gaur* and Mr. EVANS's wore a very different appearance.

But the specimen in the Museum was marked as objected to by Mr. EVANS, on the authority of a paper, and figure of the horns and part of the skull, published by Major-General HARDWICKE, in the 3rd volume of the *Zoological Journal*. General HARDWICKE states, that, "as no drawing of the animal has yet been given to the public, to my knowledge, I am induced to offer to the *Zoological Journal*, for publication, a figure taken from a pair of horns of the *Gaur* killed, I believe, by the same hunting party described by Captain RODGERS, and presented to me by the principal member of the party, the late Major ROUGHSEGE." This proves the source from whence General HARDWICKE obtained his specimen to be beyond dispute. And as he is a first authority upon Indian Zoology, and had Dr. TRAILL's paper before him, it is not likely he would have omitted any errors in the description of the forehead and horns, had there been such to notice. So far, therefore, the chain of evidence is complete. M. GEOFFROY SAINT HILAIRE described the *Gaur* from a MS. by Major ROUGHSEGE; Dr. TRAILL did the same from a MS. supplied by an officer of the same party, (perhaps a copy of the same paper,) and from the remarks of Captain RODGERS who had paid much attention to Indian quadrupeds; and Major-General HARDWICKE publishes a drawing of the very head and horns, which were described in the above-mentioned manuscript, as those of the specimen killed in their party. This leaves no possibility of a doubt as to General HARDWICKE's specimen having been the *Gaur*; and his drawing in the *Zoological Journal* which I have the pleasure now of exhibiting, looks as if taken from this very identical specimen in your museum*. For both the specimen and the drawing shew the same rotundity of forehead, the same gentle convexity on the top of the head, between the horns, (and not a bold elevated crest or ridge, as in Mr. EVANS's specimen,) and the same proportionate size and curvature of horns. And I am sure on making the comparison you will think me fully borne out in concluding that the specimen I have marked, and General HARDWICKE has described, were both, or neither, belonging to the *Gaur*. But if you think we are mistaken, you must also hold the conjecture of Mr. EVANS, that this animal, which I have shewn to be identical with General HARD-

* See the copy of HARDWICKE's sketch in Pl. XVII.—Ed.

WICKE's, is not the *Gaur*, be of more value than the positive assertion of Major ROUGHSEDE who killed his specimen in its native woods, and sent its spoils to that eminent zoologist*.

It next remains to determine what species it is to which the skull exhibited by Mr. EVANS belongs;—a matter far more difficult than to prove the label correct upon the other. It is possible that it belonged to the *Gaur*, but to a specimen of a different sex from that in the museum, and that described in the *Zoological Journal*; that the differences, however strongly marked, may be merely sexual. But, as Mr. EVANS has stated, there is another animal of this country, called the *Gayal*, the *Bos frontalis* of naturalists, with some of whose characters it seems to agree.

The *Gayal* was mentioned so early as the year 1790 in an account of the mountaineers of *Tiprah*, published that year in the *Researches* of this Society, and there called the cattle of the mountains. There are two sorts, a tame and wild variety; the former of which was then an essential article among that people at their feasts, whether of a warlike, civil or religious nature. But Mr. COLEBROOKE, who published a description of it in the 8th volume of the *Researches*, appears to think it had been noticed by KNOX in his historical relation of *Ceylon*; and imperfectly described by Captain TURNER in his journey through *Bútán*. Mr. COLEBROOKE's paper is compiled from accounts of the *Gayal* drawn up by Drs. ROXBURGH and BUCHANAN, and Messrs. ELLIOTT, MACRAE, BIRD and DICK. The only mention made in this paper of the forehead of the *Gayal* is by Dr. BUCHANAN, as follows:—"The head at the upper part is very broad and flat, and is contracted suddenly towards the nose, which is naked like that of the common cow. From the upper angles of the forehead

* There is also another account of the *Gaur* by Major HAMILTON SMITH, but apparently that gentleman never saw the animal, and has compiled his remarks from the foregoing descriptions. He thinks it possible that "Pliny's *Æthiopian* bull with blue eyes might refer to this species;" (Plin. l. 8. c. 21;) whose description is thus given by Dr. PHILEMON HOLLAND, in his translation of the works of that author, a book almost as great a curiosity as the animals he describes:—"But the most fell and cruell of all others of that country be the wild buls of the Forrest, greater than our common field buls, most swift, of colour brended, their eyes grey or blewish" (*colore fuluos oculis ceruleis*); "their hair growing contrary; their mouth wide and reaching to the ears: their hornes likewise hardly moveable; their hide as hard as a flint, checking the dent of any weapon whatsoever, and cannot be pierced: all other wild beasts they chase and hunt, themselves cannot be taken but in pitfalls: in this their wildness and rage they dy and never become tame."

proceed two thick, short, horizontal processes of bone, which are covered with hair. On these are placed the horns, which are smooth, shorter than the head, and lie nearly in the plane of the forehead. They diverge outwardly, and turn up with a gentle curve. At the base they are very thick, and are slightly compressed, the flat sides being toward the front and the tail. The edge next the ear is rather the thinnest, so that a transverse section would be somewhat ovate. Toward their tips the horns are rounded, and end in a sharp point." Here the flatness and breadth of the forehead, and the sudden contraction towards the nose, correspond pretty exactly with those peculiarities in Mr. EVANS's specimen; but nothing can be made of the description of the horns, &c.; the whole having evidently been taken from the tame variety of this "cattle of the mountains." And there is no part of any animal which undergoes greater changes by domestication than the horns of the *Ruminantia*.

In the seventh volume of the Linnæan Transactions there is also a description of the *Gayal* by Mr. AYLMER BOURKE LAMBERT, accompanied by a plate, but which also was taken from the domestic variety.

The last account published of the *Gayal* is in the afore-mentioned paper in the *Zoological Journal* by General HARDWICKE. It is accompanied by a plate of the head and horns of the *Asseel Gayal*, or *True Gayal*. General HARDWICKE says—"Of the *Gayal* (*Bos Gayæus*) of COLEBROOKE, eighth volume of the Asiatic Researches, there appears to be more than one species. The provinces of *Chittagong* and *Sylhet* produce the wild, or as the natives term it, the *Asseel Gayal*, and the domesticated one. The former is considered an untameable animal, extremely fierce, and not to be taken alive. It rarely quits the mountainous tract of the S. E. frontier, and never mixes with the *Gobba*, or village *Gayal* of the plains. I succeeded in obtaining the skin, with the head of the *Asseel Gayal*, which is deposited in the museum of the Honorable the East Indian Company, in Leadenhall Street, and from which the drawing was taken, which accompanies that of the horns of the *Gaur*."

On referring to the above-mentioned drawing you will perceive the same general appearance of face as the specimen of Mr. EVANS exhibited; the same flatness of forehead, which in the skull is probably a concave surface; the same marked ridge between the horns; and the same projection of the orbits, and sudden contraction of face towards the nose, to which he drew your attention in his paper.

Having thus laid before you all the authorities I have been able to collect, I think you will consider that I have proved my position,

that, the horns and frontal bone in your museum are those of the *Gaur*. I have also shewn that some of the characters of the *Asseel Gayal* are possessed by Mr. EVANS's specimen. But I feel that with the limited knowledge we still possess, it would be impossible in me to assert, or even to form a conjecture, that it really belonged to that animal.

In conclusion I must observe, that it but little redounds to the honor of Indian sportsmen, or I fear also of this Society, that we have not specimens both of the skins and skeletons mounted in our museum, to enable us to determine to which species a specimen belongs, of two of the largest ruminating animals known; natives of a country of which we have had interrupted possession for more than fifty years.

VI.— *On a new Genus of the Sylviadæ, with description of three new Species.* By B. H. HODGSON, Esq., Resident in Nepal.

SYLVIADÆ? Genus new. *YUHINA*, nobis. *Yuhin* of the Nipalese.

Bill equal to the head, slender, acute, depressed as far as nares; gradually compressed beyond: maxilla, cut out to centre by nasal fossæ, convex beyond, subarcuated, and gently inclined at tip, with two or three sharp teeth on either side: mandibula, straight, entire, equal to maxilla, pointed. Tomiæ of both, trenchant, scarp and lockt throughout: nares large, the aperture lunated and lineated by a nude incumbent soft membrane. Tongue sub-equal to bill, cartilaginous, deeply-forked and the prongs filamentous and convolved. Wings medial, round-acuminate, firm, 1st quill small, 5th usually longest. Tail short, firm, square. Tarsi stout, finely scaled, longer than any toe. Toes short, exterior connected to the joint, interior basally; laterals and hind sub-equal; last very stout and depressed. Nails, falcate, strong, suddenly pointed; anteriors sub-equal; hind much the largest. Head crested. Rictus slightly bristled, not wide. Habitat central and northern regions: food, viscid strong berries, and small scaly insects, such as harbour among foliage. It is the opinion of Mr. VIGORS that these singular little birds serve to connect the *Sylviadæ* with the *Certhiadæ*. In the structure of the bill and tongue, and even of the feet and wings, they remind me of the genus *Sibia* (nobis), and of others of the *Philedonian* thrushes of CUVIER—a group, the contents of which have been referred at random to the *Tenniröstral Meliphagidæ*, and (in part at least) to the long-legged division of the thrushes. These are high matters of classifi-

cation which may perchance be settled with an approach to accuracy some fifty years hence, provided our investigations meanwhile be carried into the general structure and prevalent habits of species—and be not confined, as now, to closet dissertations on dried skins.

The genus I now propose, as well as its location, are both provisional—my knowledge of the structure and habits of the species being confessedly incomplete; and the directions of the books within my reach being better calculated to misguide than to guide.

These little birds, so far as I have yet ascertained, adhere exclusively to the wild uplands; prefer the lower and more umbrageous to the higher and barer trees; and seem to procure no portion of their food from the ground. They are usually found in small flocks; and have a monotonous feeble monosyllabic note. They eat viscid strong berries and fruits, and many kinds of insects, chiefly of the scaled sort. Their intestines are about the length of their body (from the tip of the bill to the tip of the tail), furnished with grain-like cæca, near the lower end, and of nearly uniform diameter. Their stomach has the muscular coat of very moderate sub-equal thickness: and the lining neither very tough nor much grooved. Three species are known to me, in all of which the sexes resemble each other. I now proceed to a summary description of them, premising that the two first are typical, the last much less so.

Species 1st. *Yuhina gularis*; spotted-throated Yuhin, nobis.

Above, with the tertiaries and tail feathers, obscure olive brown: cap, darker and purer brown: ears, chin, throat and breast, obscure rufous wood brown; the chin and throat spotted with blackish, and bounded laterally by a longitudinal stripe of the same hue: rest of body below, bright orange rusty: primaries and secondaries black, the former with a narrow edging of hoary, and the latter with a broad one of orange: lining of the wings and inner margin of quills towards their bases, albescent: tail dusky internally: legs deep orange: bill fleshy brown with dusky culmen: iris brown: head with a full soft mobile and sub-recurved crest: size $6\frac{1}{2}$ by $8\frac{3}{4}$ inches, and $\frac{3}{4}$ oz., bill $\frac{1}{4}\frac{1}{8}$ inch, tarsus $\frac{1}{4}\frac{1}{8}$, central toe $\frac{9}{16}$, hind toe $\frac{1}{6}$.

Species 2nd. *Yuhina occipitalis*. Rusty-naped Yuhin, nobis.

Above, with the whole tertiaries and outer webs of the larger remiges and of all the rectrices, dull obscure olive brown: top of the head and back of neck dull slaty with hoary stripes: the nape, bright rusty: ears, chin, abdominal neck and the breast, vinous buff: a blackish stripe or moustache behind the gape: belly, rump and undertail coverts, deep rusty: remiges and rectrices, internally dusky

inner basal margins of the quills pale buff: lining of the wings, white: legs, orange: bill fleshy red: iris brown: head with a full soft crest, as in the preceding: size $5\frac{1}{2}$ by $7\frac{1}{2}$ inches, and $\frac{1}{2}$ oz. in weight: bill $\frac{1}{8}$ of inch: tarsus $\frac{1}{4}$, central toe $\frac{7}{8}$, hind $\frac{5}{8}$.

Species 3rd. *Yuhina* ? *flavicollis*. Yellow-necked *Yuhin*, nobis. Above, obscure brown, with a slaty tinge: cap pure rich brown: cheeks and nape paler: back of the neck, rusty yellow, continued in a collar round the sides and front of the neck and thence spread over the lower surface of the body and diluted often to white: chin and throat, white: moustache dark brown: remiges and rectrices, internally, dusky: the primaries edged externally with white on the outer webs; and all paled internally on the inner, as in both the preceding species: lining of wings, white: sides of body, shaded with brownish: legs yellowish fleshy grey: bill fleshy brown: iris brown: head crested as in both the preceding species: bill shorter, less acuminate, and furnished with only one salient process on each side the tip of the upper mandible of the bill. Size $5\frac{1}{4}$ by $7\frac{1}{4}$ inches, and less than $\frac{1}{2}$ an oz. in weight.

The following is a detail of the dimensions of a fine male specimen of the *Yuhina Gularis*; and which may serve to indicate the proportions of all the three species.

	Inches.
Tip bill to tip tail,	$6\frac{1}{2}$
Bill, length of,	$0\frac{1}{16}$
— basal height of,	$0\frac{1}{16}$
— ditto breadth of,	$0\frac{5}{8}$
Tail,	$2\frac{1}{2}$
Expanse of wings,	$8\frac{3}{4}$
Tarsus,	$0\frac{1}{4}$
Central toe,	$0\frac{7}{8}$
And nail,	$0\frac{1}{8}$
Hind toe,	$0\frac{5}{8}$
And nail,	$0\frac{5}{8}$
Weight, $\frac{3}{4}$ oz.	

Emendata in preceding ornithological papers.

Vol. V. page 777. Indication of a new genus of FALCONIDÆ; viz. *Báza*.

Generic character. For "acropodia wholly *reticulate*," read "acropodia wholly *scutellate*."

On three new Genera of the Long-legged Thrushes.

Generic character of *Larrivora*. For "*nuchal* bristles," read "*nareal* bristles."

Vol. VI. p. 102, l. 26. Description of a new form of Meruline Birds; viz. *Sibia*.

Generic character. For "*nuchal* bristles," read "*nareal* bristles."

VII.—*Note on the occurrence of Fossil Bones in the Sewalik Range, eastward of Hardwar.* By H. FALCONER, M. D., Superintendent Botanical Garden, Seharanpur.

[See Proceedings As. Soc. 5th April.]

The *Sewalik* fossils have hitherto been found chiefly on the tract between the *Jumna* and *Sutlej*, and more sparingly in the clay marl between the *Jumna* and *Ganges*. There is no apparent reason why they should not be found in abundance in the protraction of the range which stretches eastward of the *Ganges* behind *Rohilkhand* and *Oude*. But it is of some interest to ascertain the fact in unexplored parts of the range, where they do exist, and where they do not. The fossils mentioned in the following list have been collected near *Hardwar* and in the low hills eastward of the *Ganges*, which skirt the province of *Kemaon*. The list contains nothing new: but it proves the occurrence of fossils where they had not been found before, and increases the probability of finding them still further to the eastward:

Mastodon Elephantoides—molars.

Rhinoceros—molars.

Hippopotamus Sivalensis—molars and tusks.

Hog—fragments of jaws with teeth.

Horse—molars.

Ox—teeth and other bones.

Deer of several sizes—jaws, teeth, astragali, horns, &c.

Crocodiles—*Garial*, } several fragments of jaws, teeth, and buckler
Magar, } plates.

Tortoises—*Emys*, }
Trionyx, } numerous fragments.
Testudo, }

Coprolites.

This list comprises a large part of the species found westward of the *Jumna*. The specimens are generally broken up into small pieces, greatly more so than in the *Nahan* tract. The largest fossil procured has been the plastron of a testudo 17 inches long. The bones are found in three states of fossilization, exactly resembling those from the westward of the *Jumna*; viz.

1st. The "soft" fossil; the animal matter removed, but the earthy constituents of the bones unaltered, and slowly soluble in diluted muriatic acid: occurring in beds of clay, and the cavities of the bones filled with the matrix. The specimens of this variety are very few.

2nd. The "hard" fossil, with a silicious or calcareous impregnation : the animal matter and earthy constituents entirely removed : occurring in sandstone matrix.

3rd. The "black" fossil, like the last, but impregnated with hydrate of iron : occurring in sandstone, or in a calcareo-argillaceous matrix.

No shells have yet been brought in.

VIII.—*Report Progress of the Boring Experiment in Fort William.*
By Major T. M. TAYLOR, 5th Cav.

[Read at the Meeting Asiatic Society, 5th April.]

The immediate superintendence of the boring experiment having, in consequence of my removal from Fort William, passed into other hands, I think it necessary to acquaint the Society with the progress that has been made since I had the honor to submit to them a note on the subject in June last. (See Proceedings As. Soc. vol. V. p. 374.)

At that time a depth of 175 feet had been attained by the borer, which then worked in a coarse sharp sand mixed with pieces of quartz and felspar, and from the little progress made, it was supposed a bed of gravel or shingle had been reached. This supposition, however, proved erroneous ; for after some delay the work advanced, until, the borer having gained $178\frac{1}{4}$ feet, and the tubes being forced down to $180\frac{1}{2}$ feet, they were observed soon after to have sunk by their own weight, and thenceforward up to the present time they have continued so to sink, maintaining a depth generally a few feet in advance of the auger.

It is remarkable that, although it was frequently tried, it was seldom found practicable to *force* the tubes down more than an inch or two at a time ; yet, shortly after the removal of the pressure, amounting, possibly, to twenty tons, they would sometimes descend six inches or even a foot by their own gravity.

With a trifling variation in the color and fineness of the sand the stratum remained the same, until clay was found at $198\frac{3}{4}$ feet, but this stratum was not more than five feet in thickness ; five feet of sand then occurred, and after it another layer of clay. At 212 feet a bed of sand was entered, which has been penetrated to a depth of 131 feet, without reaching its termination.

Long ere this the work would have been carried to the utmost depth for which tubing of the diameter in use has been provided, had it not been for two accidents, each of which was of so serious a

character as threatened to put a final stop to the work. The first was occasioned by the separation of a part of the borer containing a valve, when at the bottom of the well; and the second by the auger becoming jammed with a brazen plumb which had been lost in the bore sometime before, in such a way that the application of no force that the rods could sustain sufficed to move the implement in *any* direction. The force that was applied may be conceived when it is stated that it was sufficient to raise the whole line of tubing bodily in the bore.

Keeping the tubes in position, the rods, by the application of a screw, were at length forcibly torn from the auger a little below the screw which joined them; after which, as in the former case, the valve worm auger was broken off by the jumper, and the instrument brought up by the catching in the socket.

The success in overcoming these disasters must be mainly attributed to the zeal and perseverance of the sappers employed on the work: in the latter, however, they were guided by the able instructions of Captain J. THOMSON, who suggested the measures to be adopted, and supplied from his own stores some of the machinery to carry them into effect*.

When my superintendence ceased, (10th March,) the tubes had sunk to the depth of 343 feet, and the borer penetrated to 336 feet. The sand still continued to rise in the manner described in my former paper. It varies occasionally in color and substance, and latterly some pieces of felspar and lumps of indurated clay or sand have been picked out of the sand brought up. Specimens accompany this paper.

The supply of English tubing of the requisite character is very nearly exhausted, but an attempt will be made to cast some in Calcutta: if it fails, the experiment must necessarily be suspended until an indent that has been sent home be answered.

Note by the Secretary.

As a postscript to the above Report, I have now to announce a most curious and unexpected discovery, communicated to me this very morning by Colonel MACLEOD, the Engineer officer, who has succeeded to the charge of the experiment hitherto so successfully conducted by Major TAYLOR.

On a former occasion the Society was shewn metallic iron reduced from ore extracted from a depth of 150 feet, and sharp angular

* To guard as far as possible against breaking the rods by the force applied to extract them, Capt. T. connected his screw with the rod-head, through the intervention of a rod of somewhat smaller section which would consequently give way before any injury could happen to the borer.—ED.

quartz and felspar from 175 feet;—but here is something which will excite much more surprise—a FOSSIL BONE brought up by the auger from a depth of 350 feet below the surface of Calcutta!

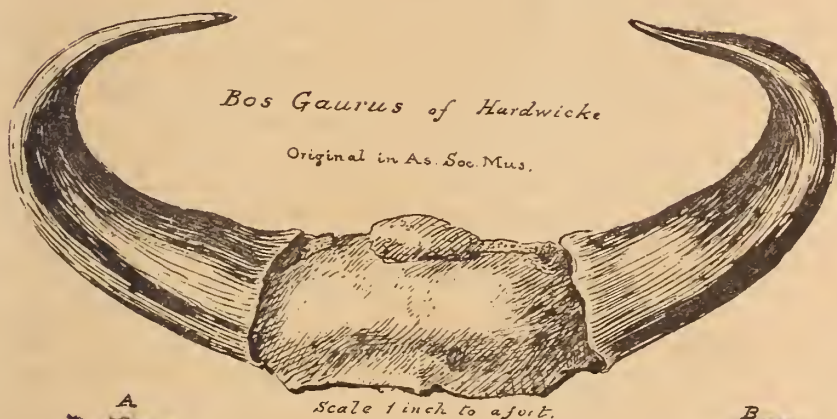
When it is considered how many million chances there were against an auger only a few inches in diameter, impinging upon the precise spot where a bone lay in the understratum,—the risk, too, of such a fragile object being ground to atoms by the tool, or pushed aside, and missed,—it may be regarded as the most extraordinary good fortune that the relic should not only have been met with but brought up entangled in the valve of the scoop without the slightest injury! The bone is the fractured lower half of a humerus of some small animal like a dog: it resembles the drawing of the corresponding bone of the hyena in CUVIER, but it is impossible precisely to identify it for want of skeletons for comparison.

The interior is filled with the micaceous sand in which it was imbedded, and scales of the same adhere to the exterior surface, as is shewn in the accompanying sketch, (see Plate XVIII.) The bone is not thoroughly fossilized, for when heated by the blow-pipe it becomes slightly charred and emits a perceptible odour:—but the animal matter left is exceedingly small, and the whole loss on heating a portion to a white heat was only 7 per cent., the greater part being moisture from the hydrate of iron with which it is impregnated. The greater part of the phosphate of lime remains with a proportion of carbonate: the specific gravity is 2.63, just the same as that of a fine specimen of polished ferruginous *odontolite* from the *Himalaya*: it requires the heat of an oxygen blow-pipe to fuse a fragment per se on platina foil.

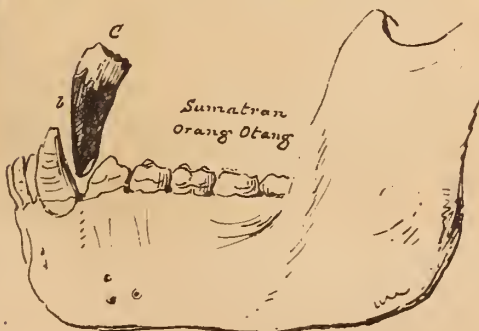
Of the relative age of this deposit, compared with that of the *Sewalik* and *Nerbudda* fossils, it is impossible to form any exact conclusions, but it is worth while to recapitulate briefly the conditions under which each are found.

The continuous stratum of lower sand in which our bone was buried at a depth of a hundred and fifty feet, may be regarded as the gradual deposit at the mouth of a primeval river: the excess of mica contained in it would seem to indicate its derivation from a gneiss or schistose source, such, indeed, as the present *Himalayan* or *Vindyan* range might still furnish. It was evidently anterior to the general and extensive alluvial deposits of the yellow *kankary* clay which entirely cover, or rather form, the Gangetic plain, and which the auger in Fort William had passed through before it attained the depth of 100 feet. Now the fossil bones of the *Jamna* were also found under the *kankar* clays of the *Doab*, 150 feet below the surface, so that in this respect

*Fossil Bone from the Sand, 350 feet below the surface, Calcutta.
brought up by the auger, April 1837.*



Fossil Quadrumanous Canine.



the situation of the two is similar enough. The calcareous infiltration which has consolidated the sand and gravel of the *Sewalik* and *Nerbudda* matrix has been wanting here, and perhaps from its greater distance from the hills alone, the sand here is in a much more comminuted state:—geologically speaking, however, the whole of the fossils may belong to the same period of alluvial deposit—or, in other words, to an indefinitely distant epoch of the present system of quiescent operations in land and flood, whose gradual action has subsequently accumulated the superjacent beds of clay, abounding in minute fresh-water shells, extending for thousands of square miles—and again over them towards the delta of the *Ganges*, other more recent and extensive beds of blue clays, colored with vegetable debris and containing imbedded peat and wood, by which they are identified with the existing soil of the *Sunderban* forests. The mind is lost in contemplating the immense periods which such a deposit would demand at the hardly visible rate of present accumulation:—yet there are other causes of wonder in the several beds of coarse granitic angular gravel and nodular or pea iron ore which have been traversed by the auger before reaching the fluviatile sand beneath. These may indicate the volcanic upheavement and subsequently gradual decay of granitic and ferruginous hills, pending the progressive deposit of the alluvium, concerning which, however, we can know nothing certain, and need not therefore lose ourselves in conjectures. In like manner it might be advanced that the whole of the clayey strata were deposited in fresh water as the saliferous sand and sandstone of Upper India has been in salt water—and that the animals whose exuviae are now brought to light at so many points, were the inhabitants of the borders of a prodigious bason. In the upper beds of blue clay penetrated in digging tanks and canals, bones have occasionally been met with (see the note on those found at *Dumdum* in Vol. II., page 649), but unfortunately none have been preserved. The occurrence of the remains of quadrupeds at one or two distant points of the series is sufficient to establish the conclusion that their existence has been coeval with the whole deposit; while the sharp unworn angles of the fort bone prove that the animal to which it belonged had lived and died in the immediate neighborhood.

In the accompanying sketch I have attempted to delineate of full size, Colonel MACLEOD's fossil bone, which may be designated without hesitation one of the most precious rarities ever deposited in the Museum of the Asiatic Society.

J. P.

IX.—Proceedings of the Asiatic Society.

Wednesday Evening, 5th April, 1837.

The Hon'ble Sir EDWARD RYAN, President, in the chair.

Mr. HENRY TORRENS, Colonel JOSEPH DE HEZETA, and Mr. STORM were unanimously elected Members.

The Right Reverend JEAN LOUIS, Bishop of *Isauropolis* and Vicar Apostolic of *Cochin-China*, was, on the favorable report of the Committee of Papers, unanimously elected an Honorary Member.

Colonel D. MACLEOD, Chief Engineer, and Captain S. F. HANNAY, were proposed by Captain PEMBERTON, seconded, the former by Major TAYLOR, the latter by the Secretary.

Mr. M. A. BIGNELL was proposed by the Rev. Dr. MILL, seconded by Mr. DOBBS.

Dr. W. GRIFFITH proposed by the Secretary, seconded by Mr. W. SPEIR.

An estimate for the repair of the Society's premises was submitted, but it was resolved to postpone such repairs as were not urgent until next year.

An estimate for the repair of Sir W. JONES's monument was submitted by Messrs. LLEWELYN and Co. amounting to Rs. 191 : also deferred.

Library.

The Secretary reported that, in obedience to the instructions of Government, he had selected and packed, for transmission to the Honorable Court of Directors, the duplicates of the Sanskrit, Arabic, and Persian manuscripts, transferred from the College Library.

The following books were presented.

A grammar of the Sindhi language—by the author, H. Wathen, Esq., Chief Secretary to the Bombay Government.

Dispatches of the Marquis WELLESLEY, 2 vols.—presented by Government through the Sec. General Department.

A descriptive and illustrated catalogue of the Anatomical Museum of the Royal College of Surgeons in London—by the College.

President's address to the Geological Society, 1836, (copies for distribution)—by C. Lyell, Esq.

Scientific Memoirs selected from the Foreign Journals, a new periodical, Vol. I. Part I.—by Richard Taylor, Esq. the Editor.

The Madras As. Soc. Quarterly Journal, January, 1837—by the Society.

The Indian Medical Journal, and Scientific Review—by Dr. Corby.

Meteorological Registers to March—by the Surveyor General.

Museum of Antiquities.

The Honorable F. SHORE presented two pieces of sculpture brought from the *Goand* country on the *Nerbudda*. One, an erect image of *Buddha*, surmounted by an arch of celestial attendants; the other, an image of *Vishnu* in the form of a snake intertwined with *Lakshmi* as *Naga kunya*.

Major COVENTRY delivered, on the part of Colonel STACY, an accurate cast of a curious piece of ancient sculpture discovered by this indefatigable antiquarian in the neighborhood of *Mainpuri*, and conjectured by him to be of a mixed Grecian and Buddhist style.

"I have the pleasure to submit a drawing on a scale of one-eighth, of a Sculpture on white marble, which I found at the village of *Prow* or *Pirow*, about 12 kos W. of *Mainpuri*. It was lying on the ground, where I conclude from the monod, the original temple had stood. Finding so much of Grecian style in the ornamental parts, I resolved to purchase it, if possible; but after several months, having failed in my endeavours to induce the people to part with it, I sent a *kalassi* to take a cast. In his hurry to finish his work and return to his family, he took off the composition

before it was quite dry, and consequently bent the cast. Into this, on its arrival, I cast one with clay, prepared by a native potter; and the sketch is taken from that, by my native draftsman; with this difference—that the enclosed sketch shews the sculpture as on the marble, with the borders in a straight line. I shall have the pleasure of offering the clay cast to the acceptance of the Society. It is already packed, and shall be forwarded by the first opportunity. The drawing I beg may be returned. This Buddo-Grecian sculpture will, I think, be acknowledged as one more lent in support of the opinion urged in the concluding part of the sixth paper of your September number, 1836."

[We hope to present a drawing of the cast shortly.—ED.]

With reference to your hopes of finding other specimens of the "Silenus Sculpture" at *Mutra*, I fear they will end in disappointment, for I have most minutely examined every hole and corner. Indo-Scythic coins are found constantly and in great numbers. I propose sending you a statement of those most common in India to contrast with that of Mr. MASSON at *Cabul* in the 57th number, page 547, 1836.

A notice and drawings of a colossal alto-relievo, called *Mata kunnr*, near *Kásia Thána*, in the eastern division of the *Gorakhpur* district, were forwarded by Mr. D. LISTON.

Received by the *Herefordshire* from Bombay, a series of facsimiles of the inscriptions at *Girnar*, (*Girinagar*,) very beautifully copied under Mr. WATHEN's superintendence from the original facsimiles lately taken by the Rev. Dr. WILSON, President Bombay As. Soc. for transmission to M. JACQUET of *Paris*.

These most valuable copies, occupying eight folios of 6 and 8 feet in length, comprise inscriptions in the three or four distinct characters now familiar to us. They are mostly in a good state of preservation, and one in the No. 2 láth character seems capable of being decyphered without much difficulty. The Rev. Dr. MILL was requested to undertake the examination of this important document.

Mr. WATHEN writes, that he has lately visited the caves of *Kandl* in *Salsette*, and has had the inscriptions taken down by an experienced hand:—they seem to be in the character of the "Prescott" coins (of *Saurashtra* and *Cutch*). The caves are a collections of Buddhist temples, and there has been a large city on the mountain above. There are also the remains of a pillar similar to those of *Anuradhapura* in *Ceylon*, and a number of tanks cut in the solid rock, which are evidence of a large population besides the priests of the temple. "I explored the mountain until I came to one cave in which a *dehgopa* had been built of large blue stones, and the remains of the *chhatra* which touched the top of the cave are still visible. Some one, however, has been digging down into it, and I fear the relics have been carried off. I however intend to have it re-examined."

Literary Communications.

The Rev. Mr. YATES submitted a critical notice of the Sanskrit poem, entitled the *Naishadha* of SRI HARSHA, of which the first volume was lately published by the Society with the tika of PREM CHAND Pandit.

Captain OUSELEY, Sec. College Fort William, submitted, through the Secretary, a letter from Lieut.-Col. FRANCKLIN, M. R. A. S., regarding a proposal made by him to the Oriental Translation Committee of the Royal Asiatic Society, for the translation of some works from the ancient classics, and some of the best English authors into the languages of the East.

[Much of the Colonel's proposal has been already accomplished in this country:—we have even now before us a bold prospectus for a version of the *Iliad* in Bengálí by *Greecechunder*, with a sample of the first book rendered line for line from Pope. We have Gay's Fables—Rasselas—and the Percy Anecdotes. Maps, too, and works of Science, as Marcet's Natural Philosophy, Hutton, and Euclid,—not to omit the Persian edition of Marcus Antoninus by the Baron VON HAMMER. Any additions to this rising oriental library which England can furnish will of course be acceptable, and it is gratifying to see the influence of a contemporary of Sir WILLIAM JONES directed to so useful a project.—ED.]

Extract of a letter from Major DIXON, Political Agent in *Mhairwár*, was read, stating that in compliance with the Society's wish he had with

Col. ALVES, made inquiries relative to the supposed existence of an extensive Buddhist library at *Jesalmér*.

The only work of which they could learn was entitled "*Bauddh mat Jain marg grantha*," of which the Rájá would willingly allow a copy to be made if desired. Although nothing either very ancient or of historical value could be expected under such a title, the Society deemed it on all accounts desirable to secure a copy of this manuscript, and accepted Major DIXON's and Col. ALVES' obliging offer.

The Government, through Mr. W. H. MACNAGHTEN, Sec. Pol. Dept. presented a copy of a Journal of Captain C. M. WADE's expedition down the *Satlaj*, drawn up by Lieutenant F. MACKESON.

[This paper is printed in the present number.]

Also, the Journal of a visit to the *Mishmí Hills* in *Upper Assam*, by Dr. W. GRIFFITH.

Captain PEMBERTON presented his abstract of the journal of a route travelled by Captain S. F. HANNAY from *Ava* to the amber mines of the *Hákon* valley on the south frontier of *Assam*, with a protracted map of the route.

Mr. C. B. GREENLAW presented, on the part of the author, a memoir on the inhabitants of the *Maldivé* islands, by Lieutenant YOUNG, I. N. of the ship *Benares*, lately employed on the survey of these islands.

Physical and Museum Natural History.

The collection of fossil shells from *Harper's Hill* and *Stony Creek* in *New South Wales*, forwarded by Lieutenant VICARY, had arrived.

[Lieutenant VICARY's note shall be published when sketches of these shells, and the connected groups from *Van Dieman's Land*, presented by Mr. W. CRACROFT, can be lithographed.]

A mounted specimen of the slow-paced Lemur, (*Loris Gracilis*), presented by Mr. BELL.

A specimen of the large Paradise Bird, (*Paradisæa Major*), presented by Nawáb TUHAWUR JUNG.

A stuffed specimen of the common Pelican, (*Pelecanus Onocrotulus*), presented by Dr. F. P. STRONG.

A specimen of the head, vertebræ and caudal fin of a large species of hammer-headed Shark, (*Zygæna* — ?) presented by ROBERT ROSE, Esq. This specimen is $9\frac{1}{2}$ feet in length. It was found ashore in a bay at *Birkál* in the district of *Midnapur*, and the rest of its body eaten.

Two bottles of insects from *Assam*, presented by Captain JENKINS.

Two skins of the Yak, (*Bos Grunniens*), presented by C. HARDING, Esq., who also sent for inspection a specimen of the skin of the Hill Fox, (*Vulpes Montana*.)

Mr. J. T. PEARSON exhibited two living specimens of the young of the *Felis Kutas*.

Extract of a letter from Lieut. COLIN MACKENZIE (*Malacca*) was read, apprizing the Secretary of his having at last succeeded in obtaining a tapir for the Society.

It was a fine young female, and had been taken with great difficulty alive: it would be sent up by the first opportunity with every precaution; the expence, including freight, would perhaps amount to 220 rupees.

Dr. H. FALCONER transmitted a memoir on some additional fossil species of the order *Quadrumana*, discovered in the *Sewalik* hills.

[We shall give insertion to this interesting paper in our next.]

Also a notice of the occurrence of fossil bones eastward of *Hardwár* (*Hari-dwára*.)

[Printed in the present number.]

Dr. H. FALCONER gives the following account of a very extraordinary elastic sandstone:—

"I have lately had sent to me to look at by Captain MCNAGHTEN, of *Karnál*, a specimen of rock which has surprised me beyond measure. It is a slab

of sandstone 14 inches long by $5\frac{1}{2}$ wide and 2 inches thick, and looks like a long brick. It exactly in appearance resembles the building sandstone used at *Agra*. It is flexible and ELASTIC in every direction!! If you place it flat on a table, and press the hand on one end and raise the other, you can bend it to a certain extent, and see the undulations moving along to the fixed end. If you seize it by both ends, one in each hand, and make an action as if you intended breaking it, you can see and feel it bend like a piece of whale-bone, but of course in an infinitely smaller degree, and the undulations are observed propagated from end to end. If you tap it on the side with the finger as you would a *massak* of water, it yields pretty much in the same fashion, propagates an undulation and instantly recovers its form. If you press it at the sides it gets narrower, and if you pull at the ends it elongates!! but always recovers its original form. Is there any account on record of so extraordinary a sandstone? Should there not, I may send you some notes about it. It is not known where the specimen came from."

H. F.

The fossils dispatched by Dr. SPILSBURY had been brought down by the Honorable Mr. SHORE, but had been sent in the first instance to Dr. Row at *Barrackpur*.

Dr. SPILSBURY notices that the beautiful meteor remarked at *Bersia*, (see Proc. February,) was also seen at *Baitul*, at *Hoshangabad* and *Jabalpur*.

A letter from Mr. W. DAWE announced the dispatch of a fresh selection of fossils (including a lower jaw of the *Sivatherium*) for the Society's Museum in three chests, which left *Karnal* 10th March.

Read a letter from Lieutenant T. HUTTON, proposing exchanges of fresh-water shells with the Society, for mutual benefit of cabinets.

The Curator explained that he had already effected the object desired.

A continuation of the Rev. R. EVEREST's notes on the Revolutions of the Seasons was received.

This part of the author's researches is accompanied by diagrams of the prices of grain in different years, whence an estimate is derived of the amount of rain.

A note on the genera *Oxygyrus* and *Bellerophon* was received from Mr. W. H. BENSON.

The following Meteorological notes were communicated by Major DAVIDSON, Engrs. from *Lacknau*. They seem to confirm the theory lately started of the prevalence of these asteroids in the opposite parts of the earth's orbit traversed in November and May.

1. On board the ship *Northumberland*, Captain POPE, proceeding from England to India in 1834, a pale star was visible for at least five days*, during sunshine. It was first discovered by Captain H. TIMMINGS, of the Bengal Horse Artillery, and was seen by all the crew and passengers of the ship. (Lat. long. unknown.)

2. At *Assirgarh* in April or May, 1823, I was lying awake on my bed at about 12 or 1 o'clock, when I was startled by a brilliant light advancing from the east end of a long narrow veranda. I waited a few seconds, expecting to see some of my family or servants bearing a candle, when (I presume as the meteor passed over my bungalow), I looked out in the compound, and observed the individual shadows of a tall *Jámun* tree, cast vertically on the ground—a circumstance I had never seen in the brightest sunshine. Not a breath of air, nor an audible sound. Conversing with Col. RICHARDS, commandant, I found that he had seen the glare, and that subsequently it had been reported to him that an immense number of stones had fallen from the sky, about twenty miles to the west of the fortress, in a forest, inhabited by *Bhils*. No inquiries were ever made.

3. While the Sappers and Miners were marching from *Cawnpur* on *Bhartpur*, (about November, 1824,) at 4 in the morning a meteor was seen by the officers of the Engineers rising in the North: it ascended from the horizon to an elevation of about 65°, and remained there in an obscure group of fixed stars for upwards of 25 minutes. On its first reaching the cluster, its light was very distinct, but it gradually melted away, until the eye could only detect its situation by the increased brightness of the spot, on making a sweep over that part of the heavens.

4. At *Assirgarh* fortress, during the rainy season, I often observed an insect formed like the common centipede, (*Scolopendra electrica*?) which at night used to leave a glowing fiery trace of its progress; and on one occasion, I had the curiosity to rub my fingers on the track, which was unctuous, and on smelling them found the strong and almost suffocating stench of burning phosphorus.

C. J. C. D.

* This may have been the planet Venus?—ED.

Major TAYLOR submitted a Report (which was read) of the progress of the experimental Boring in Fort William up to the period of his resigning charge in consequence of his change of appointment.

[Printed in the present No. page 234.]

The Secretary stated that he had to bring to the notice of the Society a most unexpected sequel to Major TAYLOR's operations. Almost the first withdrawal of the auger by Colonel D. MACLEOD, Engrs., who succeeded in charge of the experiment, brought up a relic well calculated to reward the skill and labor of all his predecessors—a FOSSIL BONE from a depth of 350 feet below the surface of Calcutta! which Col. M. presented for deposit in the Society's Museum.

[See separate note appended to the report.]

Dr. B. BURR, 4th Regt. N. I., forwarded for the inspection of the Society, specimens of silk cloth dyed from the leaves of the teak tree, one yellow, the other olive. The following information on the subject of Dr. BURR's discovery of this cheap and durable dye is extracted from his letter to the Secretary, dated *Berhampur*, 4th March :—

"These properties of the leaves of the teak tree I accidentally discovered about five years ago, when I purchased the Honorable Company's teak plantation at *Bauleah*, since cut down; but I had not an opportunity till lately of trying the effects of various mordants on it, when Mr. LAIDLAY, an expert practical chemist, was kind enough to assist me with his experience in the art of dyeing.

"The leaves at all seasons of the year contain the dye, but during the rains and cold weather, when their vegetation is most vigorous, they contain a greater quantity of it. They also retain it when dried for any length of time, so as to admit of its being exported to Europe, and I am sanguine enough in thinking it will become, when known there, a valuable article of trade with the mother-country.

"The experiments have as yet been tried with silk cloth alone, and with two mordants only, alum and acetate of iron, and the result is very satisfactory, the colors produced being permanent, and can be extracted from the leaf either by boiling or steeping in cold water. I have as yet unsuccessfully tried to obtain the dye in its pure state: its quantity, however, in the leaves and stalks of the leaves, as compared with other vegetable dyes, is very considerable.

"The piece of yellow silk sent was steeped in a saturated solution of alum for twelve hours, afterwards washed and dried, and then steeped in a cold decoction of the leaves for about three hours. The decoction was prepared from the green leaves and boiled for three hours, but the coloring matter may be extracted in much less time. The olive colors were obtained from the same piece of silk in its yellow state, steeped in acetate of iron for two or three hours. These colors may be varied, by more or less steeping in the dye liquor, from the most delicate straw color to the brightest yellow and olive green. Twelve of the leaves dried weighed three ounces and were boiled for an hour in two and a half quarts of water, one and a half quarts of liquor fit for dyeing was obtained on straining it, sufficient to dye several yards of cloth of the brightest yellow. From this some idea may be formed of the quantity of coloring matter in the leaf.

"Another property this dye contains superior to similar dyes used in this country, is that its color does not run or mix with other colors when printed on the same cloth.

"I intend making a few experiments with it on cotton, and may hereafter communicate the result."

A subsequent letter adds the following information :—

"Since forwarding the communication regarding the dye of the teak tree leaf, the following results of several experiments made with it deserve notice.

"The dye exists in the substance of the leaf, not in its stalks, as I at one time supposed. Alcohol extracts both the dye and the green coloring matter of the leaf. Water, hot or cold, extracts the dye alone. Soda, potash, the muriate of tin, and an astringent flower used by the natives in dying, called *dhyephul*, decompose this dye. Liquor ammonia changes the yellow imparted to cloth to a snuff brown. Soap mixed with the decoction heightens the yellow color, but impairs the natural brilliancy of the silk. The acetate of iron produces from a dark slate color to every shade of green and olive, according to its strength and time of steeping. Boiling the leaves for an hour or two destroys the color; this I am inclined to think arises from some of the leaves being carbonized by the heat of the vessel.—The most simple and easy way of extracting the dye is as follows. Take two gallons of water to one pound of the dry leaves; bring it slowly to the boiling point in a copper or earthen vessel; allow

it to cool, and then strain. About $1\frac{1}{2}$ gallons of liquor will be obtained, a sufficient quantity to dye a full piece of silk handkerchiefs 7 yards by $\frac{1}{2}$ yard. The decoction thus prepared is of a dark brown color, has a peculiar smell not unlike that of senna leaves. If kept for six or eight hours it ferments, becomes lighter in color, but still retains the yellow dye which it imparts to silk after six or eight days, perhaps much longer, but the color is scarcely so brilliant as when the decoction is fresh.

"The acetate of alumina is a stronger mordant for this dye than the saturated solution of alum, and is therefore preferable in printing. When the cloth has been prepared with the mordants for dyeing and put into the decoction, the liquor ought to be heated to about 150° , as at this temperature the process goes on more rapidly than when cold. From 20 minutes to half an hour's steeping will be sufficient to impart to the cloth the brightest yellow. Boiling the cloth in the liquor injures the color."

It was resolved that the specimens should be submitted to those who are best acquainted with dyes in Calcutta, and eventually sent to the London Society of Arts.

The discovery of a new site of coal in *Upper Assam* was announced in a letter from Lieut. H. BIGGE, dated *Pachora hills*, 28th February.

"Knowing the interest you take in all matters connected with science, &c., I beg to acquaint you that Dr. GRIFFITH and myself, whilst exploring the banks of the *Namrup* river, about nine miles E. S. E. from its junction with the *Bore Dihing*, in the *Singpho* country, have been fortunate enough to discover a most valuable seam of coal in the bank of the river; the upper seam was about 3 feet in depth, the centre one 9 feet, and a lower one of 3. We followed the seam up a small water-course to the south, which it crossed at an angle of 45° , and must have reached the surface a very short distance beyond, but we could not exactly determine this point. The general direction was from W. 5 N. to E. 5 S. the dip being towards the south.

"We loaded a small boat with this coal and sent it down to our camp for trial, when it was found to be an extremely good coal, burning with a strong flame and heat, and very lasting, but from the smell, containing a great quantity of sulphureous matter. It does not burn entirely away, but makes a large portion of cinder, and is, I should say, a very valuable description of coal.

"I have preserved some of the pieces which I dug out from the lower part of the centre seam, which I will take an early opportunity of forwarding to you on my return. Major WHITE also discovered several wells of Petroleum close to our camp on the *Namrup* river, which emit considerable quantities of that oil, but which have hitherto been unknown to Europeans, and apparently almost unused by the neighboring Singphos. I have got several specimens of rocks and earth from these wells, which I shall also be happy to send you, should you require them.

"Iron would also have been found, but the weather during our stay was so bad as to prevent our making further or more distant research.

"This coal, though distant, might easily be made available for purposes of steaming on the *Burhamputra*, as small canoes carrying from 1 to 10 maunds, could take down the coal at all seasons to the *Bore Dihing*, where it could be reshipped, and sent down that river to *Jorhath*, or up *Karam* and *Noa Dihing* to *Sadiya*. We are now at the foot of the pass to the Burman territories waiting for the mission, which is said to be coming to settle some boundary questions, but though we have been here since the 25th, no tidings have been received of them, and at this season; we shall, from the constant rain, be lucky to escape back to *Sadiya*, about 12 marches, without sickness."

The *Namrup* coal is of various quality, from a genuine lignite of woody fibre passing into true coal as it descends. Two specimens gave the following composition.

	Fibrous Lignite.	Compact Coal.
Volatile matter, including water,	48.9	39.9
Carbon or coal,	47.7	58.1
Ash, red ochreous,	3.4	2.0
	100	100
Specific gravity,	1.312	1.244

J. P.

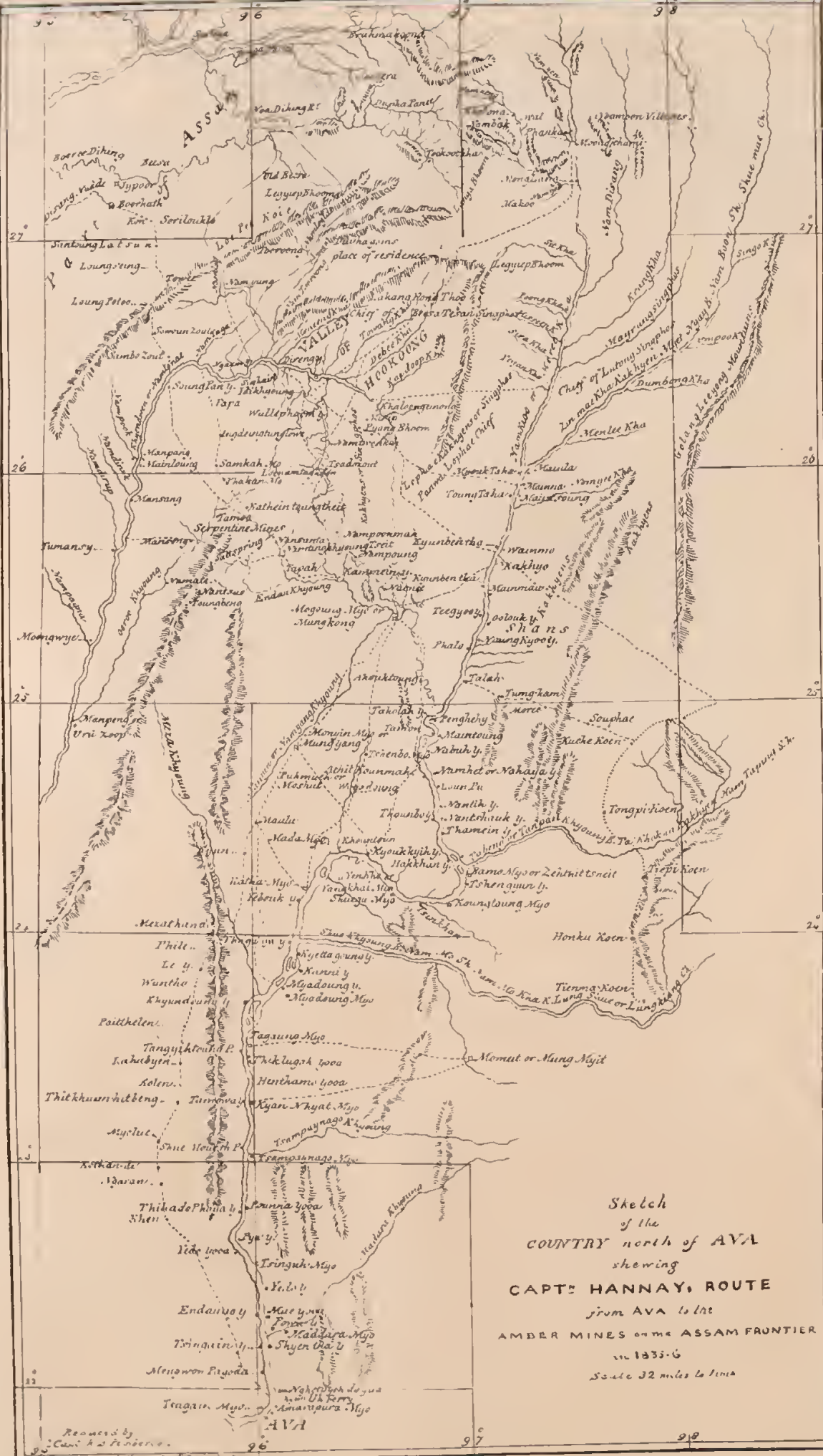
In forwarding Lieut. BIGGE's specimens, Captain JENKINS notices the discovery of another site of coal in the *Dyang*, a naddi of Central *Kachar*, a new locality calculated to prove highly valuable from its accessibility. The specimen represents a jet coal of fine rich glossy texture, spec. grav. 1.220. With it are associated iron sand and pyrites.

X.—Meteorological Register.

Meteorological Register, kept at the Assay Office, Calcutta, for the Month of March, 1837.

Day of the Month.	Observations at 10 A. M.							Calculated Humidity.				Observations at 4 P. M.							Calculated Humidity.				Register Ther- mometer extremes.		Wind.	Weather.
	Old Stand. Barometer at 3%.	New Stand. Barometer at 3%.	Thermome- ter in air.	Depression of wet-bulb.	Do. by Les. Hygro.	Dew-point.	Hair Hy- grometer.	(Centesimal tension of vapour by wet-bulb.	Do. by hair Hygrom.	Do. by dew-point.	Old Stand. Barometer at 3%.	New Stand. Barometer at 3%.	Thermome- ter in air.	Depression of wet-bulb.	Do. by Les. Hygro.	Dew-point.	Hair Hy- grometer.	(Centesimal tension of vapour by wet-bulb.	Do. by hair Hygrom.	Do. by dew-point.	Cold on roof.	Heat insun's rays on roof.	10 A. M.	4 P. M.		
1	30.028	30.016	79.3	8.8	10.7	54.8	77	59	54	46	29.940	29.937	84.9	14.3	14.3	54.3	71	45	45	33	60.0	122.0	N.W.	cloudy.		
2	29.993	30.017	79.5	8.7	10.7	55.5	84	67	66	52	29.986	30.010	84.9	14.3	14.3	55.5	80	47	59	41	60.0	122.0	N.W.	cloudy.		
3	30.013	29.932	77.9	9.8	12.4	52.5	78	56	57	43	29.968	30.007	80.7	18.4	10.7	57.4	61	37	45	31	106.6		N.W.	fine.		
4	30.070	29.987	79.3	7.6	9.3	52.8	88	63	74	49	29.976	30.007	80.7	18.4	10.7	57.4	61	37	45	31	106.6		N.W.	fine.		
5	30.033	29.987	79.3	9.6	11.2		80	57	59	60	29.992	30.017	84.9	14.3	14.3	54.3	71	45	45	33	61.8		N.W.	clear.		
6	30.061	30.061	79.5	7.7	9.3	63.5	80	65	59	60	29.983	30.017	84.9	14.3	14.3	54.3	71	45	45	33	61.8		N.W.	clear.		
7	30.021	30.009	77.2	7.1	9.4	57.8	84	67	66	53	29.986	30.017	84.9	14.3	14.3	54.3	71	45	45	33	62.0		N.W.	clear.		
8	30.019	30.043	81.2	10.6	13.2	55.3	74	54	49	44	29.997	30.017	84.9	14.3	14.3	54.3	71	45	45	33	65.0		N.W.	clear.		
9	30.015	29.998	83.9	11.6	13.0		79	52	57	57	29.987	30.017	84.9	14.3	14.3	54.3	71	45	45	33	66.0		N.W.	clear.		
10	30.006	29.982	81.9	12.1	12.0		78	50	56		29.989	30.017	84.9	14.3	14.3	54.3	71	45	45	33	68.8		N.W.	clear.		
11	30.000	29.976	80.7	15.2	16.4	52.0	64	37	35	39	29.983	30.017	84.9	14.3	14.3	54.3	71	45	45	33	68.8		N.W.	clear.		
12	30.028	29.998	80.3	14.3	15.5	50.0	66	40	33	37	29.989	30.017	84.9	14.3	14.3	54.3	71	45	45	33	68.8		N.W.	clear.		
13	29.971	29.969	79.7	8.6	10.5		81	61	70	51	29.972	30.017	84.9	14.3	14.3	54.3	71	45	45	33	65.3		N.W.	clear.		
14	30.036	30.010	80.3	11.3	11.3	51.0	71	51	43	39	29.976	30.017	84.9	14.3	14.3	54.3	71	45	45	33	65.3		N.W.	clear.		
15	30.066	30.041	81.1	4.9	6.4	54.3	89	77	76	55	29.971	30.017	84.9	14.3	14.3	54.3	71	45	45	33	65.3		N.W.	clear.		
16	30.094	30.079	83.5	10.4	11.8	64.5	81	76	76	55	29.971	30.017	84.9	14.3	14.3	54.3	71	45	45	33	65.3		N.W.	clear.		
17	30.101	30.084	84.6	5.4	7.5	72.5	86	77	61	55	29.971	30.017	84.9	14.3	14.3	54.3	71	45	45	33	65.3		N.W.	clear.		
18	30.109	30.031	84.2	8.2	9.6	69.5	84	66	66	61	29.971	30.017	84.9	14.3	14.3	54.3	71	45	45	33	65.3		N.W.	clear.		
19	30.189	30.084	85.5	11.0	14.7	61.5	75	55	66	61	29.971	30.017	84.9	14.3	14.3	54.3	71	45	45	33	65.3		N.W.	clear.		
20	30.186	30.084	85.5	11.0	14.7	61.5	75	55	66	61	29.971	30.017	84.9	14.3	14.3	54.3	71	45	45	33	65.3		N.W.	clear.		
21	30.182	30.084	85.5	11.0	14.7	61.5	75	55	66	61	29.971	30.017	84.9	14.3	14.3	54.3	71	45	45	33	65.3		N.W.	clear.		
22	30.145	30.114	84.1	5.0	6.4	73.5	90	69	66	57	29.971	30.017	84.9	14.3	14.3	54.3	71	45	45	33	65.3		N.W.	clear.		
23	30.185	30.114	84.6	4.9	4.9	73.5	90	78	78	72	29.971	30.017	84.9	14.3	14.3	54.3	71	45	45	33	65.3		N.W.	clear.		
24	30.181	30.114	84.6	4.9	4.9	73.5	90	78	78	72	29.971	30.017	84.9	14.3	14.3	54.3	71	45	45	33	65.3		N.W.	clear.		
25	30.181	30.114	84.6	4.9	4.9	73.5	90	78	78	72	29.971	30.017	84.9	14.3	14.3	54.3	71	45	45	33	65.3		N.W.	clear.		
26	30.181	30.114	84.6	4.9	4.9	73.5	90	78	78	72	29.971	30.017	84.9	14.3	14.3	54.3	71	45	45	33	65.3		N.W.	clear.		
27	30.181	30.114	84.6	4.9	4.9	73.5	90	78	78	72	29.971	30.017	84.9	14.3	14.3	54.3	71	45	45	33	65.3		N.W.	clear.		
28	30.181	30.114	84.6	4.9	4.9	73.5	90	78	78	72	29.971	30.017	84.9	14.3	14.3	54.3	71	45	45	33	65.3		N.W.	clear.		
29	30.181	30.114	84.6	4.9	4.9	73.5	90	78	78	72	29.971	30.017	84.9	14.3	14.3	54.3	71	45	45	33	65.3		N.W.	clear.		
30	30.181	30.114	84.6	4.9	4.9	73.5	90	78	78	72	29.971	30.017	84.9	14.3	14.3	54.3	71	45	45	33	65.3		N.W.	clear.		
31	30.181	30.114	84.6	4.9	4.9	73.5	90	78	78	72	29.971	30.017	84.9	14.3	14.3	54.3	71	45	45	33	65.3		N.W.	clear.		
Mean	29.902	29.878	82.0	9.0	10.0	56.6	81	61	62	55	29.775	29.909	9.17	17.1	17.5	55.8	69	39	43	33	67.7	114.3	N.W.	cum.		

The barometrical differences at 10 and 4 are 0.22 and 0.46. In January they were 0.24 and 0.54. From the 20th the old hygrometer, supplied with new hair and properly verified in its scale, is registered. There are in fact three hair hygrometers of which the indications agree very closely together.



Sketch
of the
COUNTRY north of AVA
showing
CAPT. HANNAY'S ROUTE
from AVA to the
AMBER MINES on the ASSAM FRONTIER
in 1855-6
Scale 32 miles to India

Just as the 17. 12. 1913





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